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A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

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OUTLOOK BRIGHT IN PARTS FIELD

Bendix and Davis See Big Business in Spring Months

By WALTER BERMINGHAM

CHICAGO, Dec. 19.—Two leading manufacturers in the automotive field came out today with optimistic statements on prospects for the industry in general and their own companies in particular during the coming year. They are Vincent Bendix, president of the Bendix Aviation Corporation, and O. S. Davis, president of the Borg-Warner Company.

Simultaneously a cheerful note was sounded on the outlook for the steel industry in this section during 1930, due partly to the anticipated demand on the part of automobile manufacturers.

The statement from Mr. Bendix and the news about the steel industry agreed that the second quarter of next year should witness a powerful upswing.

"After the first quarter of 1930, I think the automobile industry will be back to normal," said Mr. Bendix. "I base this on demands that motor car manufacturers are making on our company at this time.

"This indicates that the demand for automobiles will not be materially diminished in 1930 and that the saturation point has not yet even been approached.

"We are going ahead with development of new devices and inventories low and with prospects brighter than they have been in some time."

From Mr. Davis came the report that business for the Borg-Warner Company in the final quarter of 1929 is about normal for this period, although sales and profits will be below the similar 1928 period, which was abnormally large.

"Although automobile production is considerably curtailed at present,

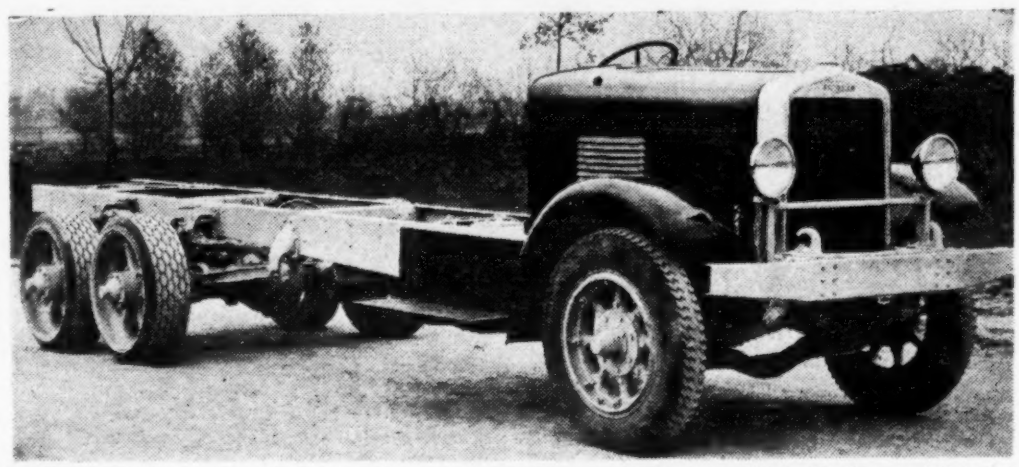
(Continued on Page 2)

BENDIX NOT TO ACQUIRE CONSOLIDATED COMPANY

New York, Dec. 19.—The Bendix Aviation Corporation is not promoting any merger embracing the Consolidated Instrument Company, Vincent Bendix, president, stated emphatically today in denying the report to that effect made by an official of the Consolidated Company early in the week.

"There are no conversations being held," said Mr. Bendix, "which look toward the merger of the Consolidated Instrument Company with Bendix Aviation Corporation. More than a week ago, a plan was brought to our attention which aimed in that direction, but at the time we turned the proposal down."

Brockway-Indiana Adds Six-Wheeler



CORTLAND, N. Y., Dec. 19—To meet requirements of modern heavy duty transport, Brockway-Indiana is now producing a new six-cylinder six-wheel chassis and a companion four-wheel chassis.

The six wheeler is rated 40,000 pound gross weight capacity as a truck and 70,000 pound gross weight for tractor-trailer operation. Corresponding four wheel unit ratings are 30,000 pound and 65,000 pound respectively.

Although parts and units of both chassis are largely interchangeable, the company offers options in tire equipment, wheelbase and rear axle ratios to adapt either model to individual requirements. Solid and high pressure pneumatic dual rear tires are supplied on customer's specifications.

In the six-wheeler a Timken tandem worm drive axle unit is used and a single Timken worm drive axle is embodied in the four-wheel chassis.

Standard wheelbase of the six-wheel unit is 212 inches, which will accommodate a 17 to 18½ foot body, the four-wheel chassis standard wheelbase is 182 inches, the tractor model 146 inches.

Major units, other than rear axle, are Continental 16-H six-cylinder 4¾ by 5¾ inches L-head engine, Brown-Lipe multiple disk clutch and Brown-Lipe two-range seven speed transmission mounted amidships.

Four wheel brakes, operated by Westinghouse air equipment, are regularly supplied on both the four and six-wheel chassis. Front wheel brakes are supplied for front wheels of the six-wheeler, when desired, at extra cost.

SEE GAIN IN 1930 CAR SHIPMENTS

Rail Movements to Show 33% Increase During 1st Quarter

By W. R. CROWELL

CLEVELAND, Dec. 19.—Automobile manufacturers in the territory of the Great Lakes Regional Advisory Board, including Detroit, Toledo, Cleveland and Akron, anticipate a sharp upturn in railroad shipments during the early part of 1930.

A careful calculation of freight car routing requirements of the automobile factories in the region, submitted to the board here yesterday, showed that needs for the first quarter of 1930 will exceed those of the last quarter of 1929 by 33 per cent.

The estimate is 24 per cent. under the first quarter of 1929, but Kenneth A. Moore, traffic executive of the National Automobile Chamber of Commerce, who acted as spokesman for the motor car interests, pointed out that the 1929 movement was 50 per cent. in excess of 1928.

Automobile production of 1930 will reach the five million mark, Moore said, reasoning that three million automobiles must be produced for replacement sales, one million for export business, and at least one million additional for new buyers and sales to two-car families.

"Manufacturers have no apprehensions about 1930 and expect an entirely normal year in the automobile industry and industries dependent or allied with it," Moore said, pointing out that a five million car production is a normal volume.

The prediction was of special interest, coming from the automobile industry itself, in view of recent statements by business forecasters outside of the industry to the effect that production might fall off as much as one million cars in 1930.

Parts and accessories manufacturers indicated that they expected 1930 business to follow closely the levels of automobile production.

Rubber factories represented, including the Akron interest, said the slump anticipated for the first quarter of 1930 would amount only to 2 per cent. under the same period of 1929. The rubber industry, after operating at record levels for the

(Continued on Page 12)

GUIDE LAMP TO MOVE OFFICES TO ANDERSON, IND.

Anderson, Ind., Dec. 19.—Sales and engineering offices of the Guide Lamp Corporation, a General Motors subsidiary, will be transferred from Cleveland, O., to Anderson the first of the year, it is announced by F. S. Kimmerling, president and general manager. The change will centralize all general offices of the corporation at the Anderson plant, and will bring an increase in employment here, it was said. The company operates factories here and at Cleveland.

GRAHAM-PAIGE WILL INCREASE CAR PRICES

Detroit, Dec. 19.—The Graham-Paige Motors Corporation plans to increase prices on all models, effective January 1. Controlled production of motor cars as a solution of labor turnover problem of the automobile industry has been adopted as a fixed policy by Joseph B. Graham, president of Graham-Paige Motors Corporation.

By shipping cars only as required for immediate wholesale and retail delivery and by regulating production during the off-selling periods to build up a reasonable reserve stock to meet seasonable peak demands, it is hoped to provide steady employment.

AMERICAN AUSTIN COMPANY FINANCED IN U. S. ENTIRELY

Detroit, Dec. 19.—The American Austin Car Company announced today that the organization is financed entirely by American capital and the only connection between the British and American companies is that the Americans have procured the rights of manufacture in the United States. The company will start production on these cars in February at the Butler, Pa., factory.

G. M., FORD SALES 66.2% OF TOTAL

Divide Two-Thirds of 1929 Business Between Them

NEW YORK, Dec. 19.—General Motors Corporation and the Ford Motor Company in the first ten months of 1929 accounted for 66.2 per cent. of all the new passenger car sales in the United States, splitting the business almost equally between them, according to the registration figures from all states.

One car in every five sold in this country in the first ten months was a Chevrolet, this company alone accounting for 20 per cent. of the total registration by sales of 714,602 of its new six-cylinder car. This is a remarkable record, made in the face of heavy competition from the new Ford, which entered the year with thousands of orders on hand as a result of the small production in 1928.

All General Motors units together accounted for 1,168,155 sales in the period, equivalent to 32.7 per cent. of all the new passenger car business for the ten months.

Ford sales were 1,188,720, which, with 5,519 Lincolns registered, made a total for that company of 1,194,239, which is equal to 33.5 per cent. of the total for the entire industry.

After allowing for the Ford and General Motors 66.2 per cent. of the total, the rest of the industry split 33.8 per cent. among the various

(Continued on Page 2)

REICHEL HEADS SALES OF JORDAN MOTOR CAR CO.

Cleveland, O., Dec. 19.—The Jordan Motor Car Company announces the appointment of R. C. Reichel as sales manager to succeed L. F. Murphy, who has joined Jordan Distributors, Inc., as vice-president and general manager of the unit located in New York city.

Mr. Reichel, who was originally with the United States Steel Corporation, has spent twenty-two years in the automobile industry with Buick, Chalmers and Chrysler before coming to Jordan. He has had extensive experience in both the service and sales of automobiles.

MOTOR BUS HEARING IN WASHINGTON JAN. 8

Washington, Dec. 19.—The House Committee on Interstate Commerce, of which Representative James S. Parker of New York is chairman, will take up the proposed legislation for Federal regulation of motor buses in interstate traffic at its first hearing of the present session of Congress on January 8. Representative Parker, who is the author of a bill for such regulation, said today in announcing the date of the hearing that although bus lines are operating all over the United States in commerce between the states, they are without any responsibility except that which the company voluntarily impose.

S. A. Miles Announces New Entries in National Shows

NEW YORK, Dec. 19.—Additional last minute entries for the National Automobile Shows in New York and Chicago were announced today by Manager S. A. Miles. Announcement also was made of three exhibitors of complete cars who have been alloted extra space at Chicago. The latter are Hudson Motor Car Company, space 3-A; Studebaker Corporation, spaces 32-33, and Chrysler Motors, space 3. All are on the main floor of the Coliseum.

New accessory section exhibitors at New York are: Automotive Service Bureau, 210 South Hanover St., Baltimore, Md.; H. R. Crane, 17 West 60th St., New York city; Superior Distributors, Inc., 150 West 52d St., New York city; Waltham Watch Company, Waltham, Mass., and Maurice Mertens, 75 Boulevard Gouron Saint Cyr, Paris, France.

Added to the accessory exhibitors at Chicago is the Hoyt Distributing Corporation, 2017 South Michigan Ave., Chicago, Ill.

At the New York display in Grand Central Palace the following special days have been designated for show week:—

Monday, January 6, International Day; Tuesday, January 7, Municipal Day; Wednesday, January 8, Army and Navy Day; Thursday, January 9, Aviation and Engineers Day; Friday, January 10, Theatrical Day; Saturday, January 11, Suburban Day.

SERVICE WINS SALES!

SERVICE after the sale is the best business builder. Read the story on Page 3 of how important the Grant-Harris-Rippley Company in Atlanta considers this phase of its business.

Oakland Announces Eight Priced Below Present Six

DETROIT, Dec. 19.—A new Oakland Eight to list at prices ranging for $80 to $150 under the present prices of the six-cylinder car was announced today by the Oakland Motor Car Company. This will put the new Oakland Eight in the $1,000 price class. A V-type motor will be used in the new car.

The replacing of the old Six with an Eight gives the Oakland company the Pontiac Six and Oakland Eight, in line with the Oldsmobile Six and the Viking Eight made by the Olds Motor Works, another General Motors unit.

Three of the five car manufacturing divisions of General Motors are now in the eight-cylinder field, leaving only Chevrolet and Buick without representation among the higher powered cars.

The prices of the Oakland Eight, as compared with the Six, follow:—

	Eight	Six
Coupe	$1,045	$1.145
Two-door sedan	1,065	1,145
Four-door sedan	1.145	1.245
Sports coupe	1,115	1,265
Customs sedan	1,195	1,320
Roadster	1,025	1,145
Phaeton touring	1,025	1,145

Twin Coach Milk Cart of Cleveland

HERE'S THE new milk delivery unit that may replace old dobbin on Cleveland milk routes. The Telling-Belle Vernon Creamery, Cleveland, is installing a fleet of six of these Twin Coach units, to test them out before motorizing the milk routes. The Twin Coach Corporation, Kent, O., makes the new unit

PARTS MAKERS SEE GOOD YEAR AHEAD

(Continued from Page 1)

we have had a continuous flow of small orders for parts and equipment," stated Mr. Davis. "This indicates manufacturers are cleaned up closely on unassembled parts. Renewed production will call for immediate resumption of activity by parts and equipment manufacturers.

"This healthy condition contrasts with the situation existing at the start of the year several times in the past, when heavy parts accumulation had to be cleared up before other branches of the industry could share in renewed activity of motor manufacturers."

In steel circles it is expected here that the 1930 output will be close to this year's levels. Some of the encouraging signs named are the low inventories of automobile manufacturers and the fact that the makers of low priced cars especially are planning to get under way with large scale production early in the year.

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New York, Dec. 19.—In the issue of the Automotive Daily News of Saturday, December 14, there appeared a tabulation of new car registration figures for the month of November, giving comparative totals for the year 1928, with recapitulations and percentage figures covering the metropolitan district.

These statistics, which the Automotive Daily News, published, are the official automobile registration reports and are the property of Sherlock & Arnold, compiled and copyrighted by them on a daily, weekly and monthly basis.

The Automotive Daily News inadvertently published these Sherlock & Arnold copyrighted figures and takes this occasion to express regret at the occurrence.

Readers of the paper are referred to Sherlock & Arnold for future publication of such figures, as their service in the metropolitan area forms a basis for a practical study of the development, purchasing power, selection of cars and accessibility of the district.

AKRON TIRE MAKERS TO STEP-UP 1930 OUTPUT

Akron, O., Dec. 19.—All of the large tire manufacturers in the Akron district plan to step up production after the first of the new year, according to advices from the center to members of the Rubber Exchange.

New Uniform Traffic Code Launched by Motor Groups

Special from A. D. N. Washington Bureau

WASHINGTON, Dec. 19.—Highway and street authorities from all parts of the country today launched a new campaign for adoption of the uniform vehicle code and model municipal traffic ordinance in all localities which have not yet adopted these provisions.

William E. Metzger, automotive manufacturer and chairman of a meeting of the committee on uniform traffic regulation of the National Conference on Street and Highway Safety, declared that business and agriculture are bearing the chief burden of the cost of traffic accidents.

"In the present drive for tax reduction and stimulation of business prosperity," Mr. Metzger said, "we have an opportunity to stop a loss which amounts to one-third of the national tax budget."

Emphatic support of the principles of the uniform traffic code were adopted at the meeting which was called by Secretary of Commerce Robert P. Lamont.

Twenty-five states now have the code in whole or in part, and the delegates held that the success of the provisions warranted a new campaign by the respective localities which have not adopted such measures.

In addition to the wide representation of state and city officials, many representatives of motor groups were present, including the following: William E. Metzger, National Automobile Chamber of Commerce, chairman; Howard D. Brown, Detroit Automobile Club; W. W. Cloud, Yellow Cab Company, Baltimore; J. Allen Davis, Automobile Club of Southern California; D. C. Fenner, Motor Vehicle Conference Committee; A. V. Hall, Motor and Equipment Association; C. C. Hanch, National Association of Finance Companies; Robert P. Hooper, American Automobile Association; Charles C. Janes, Ohio State Automobile Association; John C. Long, National Automobile Chamber of Commerce; James McEvoy, General Motors Corporation; E. C. Matthews, American Drivurself Association; Milton Tibbets, Packard Motor Car Company.

I. M. UPPERCU FORMS NEW AVIATION CONCERN

New York, Dec. 19.—An aeronautical holding and operating company, the Uppercu Burnelli Aircraft Corporation, has been incorporated in Delaware with a capitalization of 1,000,000 shares of no par value under the sponsorship of I. M. Uppercu, president of the Uppercu Cadillac Company, and Vincent J. Burnelli, aeronautical designer and engineer.

G. M. AND FORD SALES ARE 66.2% OF TOTAL

(Continued from Page 1)

units. This brought the industry as a whole back to the division of trade that existed, while the Ford company was making the old Model T passenger car. During the change-over from the Model T to Model A, however, General Motors did about 50 per cent. of the total business.

The third largest unit in the industry in point of domestic sales in the ten months was Chrysler Corporation, the total sales of which amounted to 311,298, or 8.6 per cent. of the aggregate. Dodge was the heaviest contributor to this corporation's sales, with registrations of 101,072, or 2.8 per cent. of the grand total for the industry.

Next in line came the Hudson Motor Car Company, the total sales of which amounted to 237,326, equal to 6.3 per cent. of the industry. Essex accounted for 5 per cent. and Hudson 1.3 per cent.

Willys-Overland was next, with Whippet and Willys-Knight sales amounting to 190,692, equal to 5.2 per cent. of the aggregate, with Whippet accounting for 4.3 per cent. and Willys-Knight .99 per cent.

Sales of the Studebaker Corporation, including Pierce-Arrow, now under Studebaker control, amounted to 84,427, equivalent to 2.3 per cent. of the grand total.

The sales of all the above companies aggregated 88.7 per cent. of the entire industry, leaving 11.3 per cent. for the rest of the companies.

S. A. E. TELLS ITS PROGRAM FOR ANNUAL DINNER JAN. 9

New York, Dec. 19.—The annual dinner of the Society of Automotive Engineers will be held at the Hotel Pennsylvania on Thursday evening, January 9, according to a complete program announced today.

The dinner will be an informal beefsteak function and will start promptly at 6 p. m. William B. Stout will act as toastmaster at the dinner and Col. Sidney D. Waldon, president of the Detroit Rapid Transit Commission, will speak on "Increasing the Capacity of American Highways." Vincent Lopez and his orchestra will furnish entertainment. After the dinner speeches, there will be an informal reception.

SPARKS from DETROIT

Cliff Best on the Job

* * *

Airplane Stability

* * *

A Fast Town

Fred Kingsbury—Detroit Editor

C. A. (CLIFF) BEST, general sales manager of the American Austin Car Company, is one of the busiest men in Detroit. His office is the Stormfeltz-Loveley Building at Grand Boulevard and Woodward and is the scene of great activity.

Following announcement some time ago that this company would start production of an English type motor car, adapted to American uses, and at a low price, every one immediately wanted to know all about it.

Not only are there great numbers who call at the office to ask questions about the automobile, but salesmen by the hundreds are calling every day in an effort to sell something to the new company.

Although all this is very exacting on any man who is working very hard completing plans for merchandising a new product (Mr. Best says it is not new, having been developed over a period of seven years in all corners of the globe) he is thoroughly enjoying himself because he likes hard work.

One thing that is always noticeable to Mr. Best's friends is that he has a great head for figures. He always wants to know why and wants to have the figures to prove his point.

When representing another company in Detroit, he usually was the first, at the end of each month, to have complete figures on automobile sales and registrations in the Detroit district, and they were always accurate.

Thus, we cannot help remarking that when Mr. Best starts to do something he will have the figures and dozens of reasons why it should be done. He is going ahead at a rapid rate building up the personnel of his organization and we are willing to wager that he takes his work home with him nights, because he is that kind of man.

* * *

Detroiters are happy because they feel that they are assured of a fine new Federal Building, following a recent trip to Washington by Gov. Fred W. Green. They are of the opinion that at least $5,000,000 will be expended for a Federal structure, which is a great need in this city.

* * *

IT seems that they are trying out everything to test the stability and easy riding qualities of airplanes in this section of the country. Just the other day Ralph Greenleaf, one of the world's leading pocket billiard players, had a billiard table installed in an airplane. He gave an exhibition of the game while the aircraft was flying 1,500 feet over Detroit. The big ship kept such an even keel that Greenleaf had no difficulty in making the most difficult shots.

We suggest that some of our marble champs get together and try out a few games in some of our luxurious motor trucks, buses and passenger cars. They will be surprised.

* * *

Miller McClintock, nationally known traffic expert, is expected in Detroit in a few days, to give an address to safety and traffic organizations. Mr. McClintock is director of the Albert Russell Erskine Foundation for street traffic research at Harvard University. This foundation was made possible by A. R. Erskine, president of the Studebaker Corporation.

* * *

Coldwater, Mich., is becoming a very fast town. The other day a man was arrested in his home for liquor violation, arraigned, sentenced and on his way to prison within the short period of an hour.

* * *

The other day representatives of half a hundred Detroit firms whose business histories have covered more than fifty years met at one of the hotels and completed plans for a permanent organization. The histories of some of these concerns date back to the '30s when the city had a population of only 8,000.

* * *

It seems to be the make-up of some human beings to try and "crash the gate." This has been shown in the last few weeks by a considerable number of people, both from Detroit and other places, who have attempted to get into the various automobile plants in an endeavor to see the new automobiles which will be placed on display for the benefit of the general public early in January. Needless to say these people failed to realize their desires.

After-Sale Service Is Best Business Builder

Grant-Harris-Rippley New Home Features Service Department

Atlanta, Ga., Dec. 19.—Service after the sale is the best business builder, in the opinion of the owners of the Grant-Harris-Rippley Company at West Peachtree Street and Biltmore Place, here, Ford and Lincoln dealer.

Service is not an empty phrase to this company. And in building its new home, which is considered one of the most modern and imposing in the South, no pains were spared in the effort to make the service department and its equipment commensurate with the sales department of the establishment.

The new building faces on West Peachtree Street and occupies an area 100x197 feet. The ground floor contains the main show room where Ford and Lincoln cars are displayed on a terrazon tile floor, 100 feet wide by forty feet deep. The walls are tastefully decorated in light cream with elaborate hangings. Business offices are located in the rear of the showroom and are designed for the greatest possible efficiency. Rest rooms for customers are also provided.

The service department, which comprises two separate units, one for Lincoln and one for Ford, is the pride of the two chief executives, W. J. Grant, president and Homer B. Harris, vice-president.

The Lincoln service entrance, facing on Biltmore Place, has a fourteen-foot automatic disappearing overhead door, which gives entry here into a spacious service checking room, where customers leave instructions with the Lincoln service representative. The Lincoln is then driven up the wide, gently sloped ramp to the service room on the second floor, where the necessary work is done by a staff of skilled Lincoln factory-trained mechanics.

To the right of the Lincoln service entrance is located the Ford and Lincoln parts department, a huge installation occupying 2,400 square feet of space and containing complete parts for Ford model "T" and "A" and all Lincoln cars.

This department is most efficiently arranged, and is said to be the finest example of its kind in the South. Comfortable waiting benches are provided here in the spacious lobby that is included in the parts department, and a door leads from here directly to Biltmore Place.

The equipment of the department is all in green steel enclosed in close meshed steel wire of the same color, and makes an efficient and attractive layout.

Parts are sent on order for the workshops on the second floor by electric elevator. Behind the parts department is the Ford service room, which has an entry from Biltmore Place similar to the Lincoln entry.

Here, as in the Lincoln department, service specifications are taken and listed by representatives, and the customer's car driven up a ramp to the Ford shops on the second floor. The system works with efficiency and precision, the customer receiving the fastest and most complete attention possible to scientific arrangement.

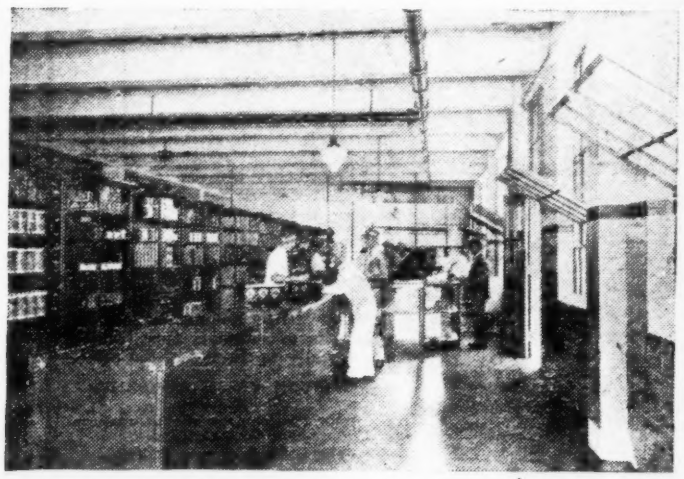
Between the Lincoln and Ford rampways are located wash racks and greasing car lifts where a total of twelve cars can be washed, polished and lubricated in rapid order. In this space every minor car service can be performed with the utmost speed and thoroughness.

The entire second floor of the building, under a barrel type daylight steel trussed roof, is given over to the repair shops of Ford and Lincoln. More than 18,000 square feet of space is devoted to this important department, and literally every piece of modern automobile service equipment is installed in this department. Every mechanic is provided with a complete set of tools and full steel table, and work bench equipment characterize the shops.

Executive Personnel

The executive personnel of Grant-Harris-Rippey Company, consisting of twelve department executives, boasts a total of 120 aggregate years' experience in the Ford and Lincoln automobile business, an average of ten years for each of the twelve. Each man is an outstanding expert in his particular work, and the one woman listed in the executive ranks, M. D. Middleton, has had fourteen years of service in Ford work.

A SECTION of the Ford repair shop of the Grant-Harris-Rippley Company's new building is shown above. This department is designed to provide light airy workshop and, with the Lincoln repair shop, covers 18,000 square feet of space



THE FORD-LINCOLN parts department of the Grant-Harris-Rippley Company's new Atlanta home is shown above. This department occupies 2,400 square feet of space

DEALER DOINGS

Minneapolis, Minn., Dec. 19.—The Pence Auto Company, pioneer Buick dealer of Minneapolis, announces plans to close all Northwest branches.

Passaic, N. J., Dec. 19.—On the tenth anniversary of its founding, John A. McCrane Motors, Inc., has opened a new showroom and sales service at 979-981 Main Ave., in North Passaic. The showrooms, under the management of William J. Corcoran, will carry a full line of Reo cars and speed wagons.

New Brunswick, N. J., Dec. 19.—The Russell Chevrolet, Inc., Chevrolet dealer here, took title today to the S. A. M. garage at 265 George St. On or before January 1, the Russell Chevrolet, Inc., will move its service station to the new location, utilizing the present quarters at 316-320 George St. solely for the new and used car display purposes.

Massillon, O., Dec. 19.—Joseph E. Geoghan, local manager of the Pearl Motor Company, was chosen president of the Massillon Automobile Dealers' Association at the recent annual election of officers. F. L. Hicks of the Hicks Motor Car Company was elected vice-president and J. B. King was elected secretary and treasurer for the sixth consecutive year. The new officers will be installed at the January meeting, after which there will be a general discussion on newspaper advertising, in accordance with the National Automobile Dealers' Association program.

CHICAGO WINDSOR DEALERS HEAR 1930 SALES PLANS

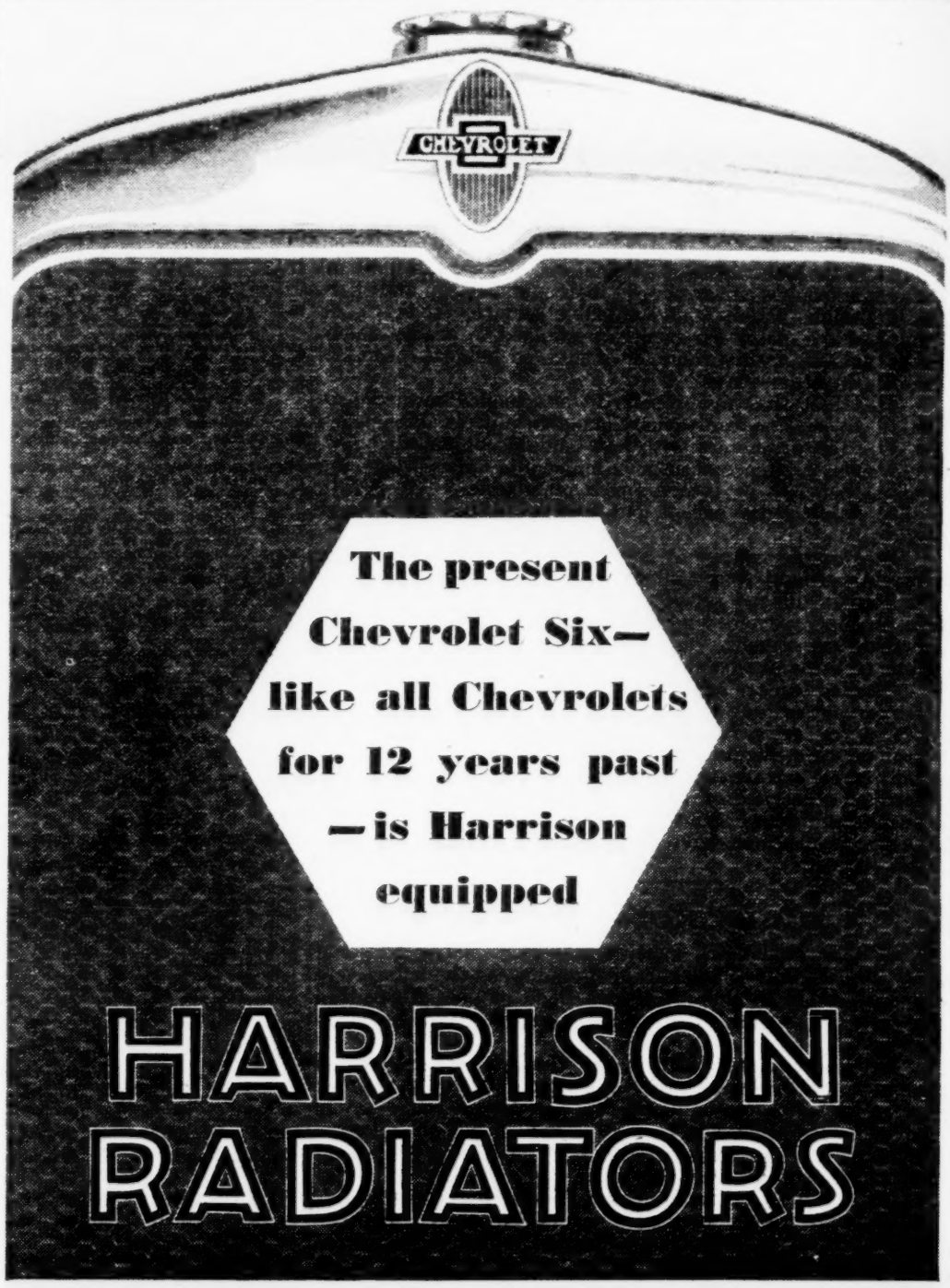
Chicago, Dec. 19.—Chicago Windsor dealers and distributors held a meeting last week to lay out plans for the new year. Helm Walker, vice-president and general sales manager of the corporation, was the principal speaker.

He told the dealers of the company's 1930 policies and contemplated expansion. He also told of plans for front-wheel drives in both six and eight cylinder fields. J. Edward Mahoney, central district manager, with headquarters in Chicago, was the master of ceremonies.

OAKLAND-PONTIAC GROUP IN BOSTON HOLD MEETING

Boston, Mass., Dec. 19.—Oakland-Pontiac dealers of the Boston zone met this week at the Copley-Plaza to discuss with factory officials sales plans for 1930. Zone Manager Fred C. Sibley presided.

W. R. Tracy, vice-president in charge of sales, told the dealers that the company had every reason to believe that 1930 will be a good year for business, and that the company intended to build in accordance with the retail demand as forecast by the dealers.



Automotive Daily News

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How They Love Us

WORD comes that the European automobile manufacturers are continuing during the Belgian automobile show in Brussels a series of conversations that were begun in Paris over ways and means of shutting American cars out of their markets. They express it somewhat more diplomatically by calling it "common action against American competition."

At first the European mnufacturers hoped to promote some form of international agreement, presumably for tariff walls or some similar obstruction, but that eventually was given up because it was found to be hopeless. General adoption of the quota system of imports is a remote contingency. What is now hoped is some sort of common action by manufacturers to put obstacles in the way of American penetration. But even in this objective there is reported to be a growing apathy, if apathy can be said to grow, among manufacturers.

The truth is that American operations in Europe must stand or fall on their economic value. If our exporters can offer Europeans something better than their home talent can do, and can meet price competition, they are going to get a good share of business.

Associations

SINCE the very beginning of motoring activity in this country, users of motor transportation have found benefit in various forms of association. There are national bodies comprising car owners in their membership and there are local clubs which render valuable service. It is a good thing to have motor car owners organized to protect themselves against unfavorable laws and to achieve practical benefits in other ways.

This fact that motor activity has tended toward promotion association for various laudable objects has opened the door for promoters with less laudable objects in view. From time to time associations and clubs appear, offering nominal benefits in return for a membership fee, but in reality doing little except put money in the promoters' pockets.

In a single county in New Jersey recently the public prosecutor found that 42,000 motorists had paid membership fees in alleged service organizations, which promised free or cheap service and did little to repay the members for their investment. As a matter of fact the promoters of one of these are being held for the grand jury.

As the leaders in their communities, automobile dealers can perform no more practical service than in scrutinizing the activities of such associations. They can protect their clients' pocketbooks by so doing and can warn their customers that membership in properly accredited clubs is an investment, but that money put into membership fees in unofficial organizations is pure waste. Dealer associations have a valuable work to perform in this respect.

Confiscatory Taxation

ALFRED REEVES, general manager of the National Automobile Chamber of Commerce, the other day called attention to the outrageous flood of special taxation that users of motor transportation are being called upon to bear.

Mr. Reeves says that this year the total of taxes levied on motor vehicle owners will exceed $925,000,000. Such a sum in special imposts placed upon a single class of our citizens seems almost incredible. Time is not so far gone when the whole expenses of running the United States did not exceed a billion dollars a year.

In truth the time has come, indeed it is long past, when the users of motor transportation must organize to fight against unjust, class taxation, which is rapidly reaching a critical stage.

Personal Briefs

Baltimore, Dec. 19.—Charles Kirwan has been appointed sales manager of Minter & Bradley, Inc., Lincoln distributor.

Erie, Pa., Dec. 19.—Philip C. Bauschard, retiring president of the Erie Automotive Association, was presented a wall plaque in appreciation of his services at a dinner in the Shrine Club here. William Stirling, who becomes president of the association, January 1, said reservations for space at the organization's 1930 automobile show assure that the exhibition will be one of record proportions.

Jacksonville, Fla., Dec. 19.—E. R. Stanley, president of Stanley Motors, Inc., local Chrysler dealership, has just announced the appointment of E. H. Crawley as service manager. For the last few months Mr. Crawley has been operating an automobile service business of his own.

Chehalis, Wash., Dec. 19.—Les Hitt, for the last four years associated with the Eldridge Buick Company of Seattle, has joined the staff of the Gordon Hamilton Motor Company of Chehalis, Lewis county De Soto dealer, as sales manager. Hitt also served for a time as Hudson-Essex factory representative in southwest Washington.

Chicago, Dec. 19.—Robert Somerville, general sales manager and advertising manager, and Al Dampman, retail sales manager of the Hudson Motor Company of Illinois, have recently returned from an extended business trip to Detroit, New York and Philadelphia. In Detroit they spent several days at the Hudson-Essex factory.

COMING EVENTS

JANUARY

1-12—**Milwaukee, Wis.** Automobile show.
4-11—**New York.** National Automobile Show.
5-10—**Springfield, Mass.** Automobile show, Municipal Auditorium.
6-11—**East Orange, N. J.** Orange and Maplewood Automobile Show.
8-11—**Flint, Mich.** Automobile show.
9 —**New York.** Society of Automotive Engineers' Annual Dinner.
11-18—**Atlantic City, N. J.** American Roadbuilders' Association Convention.
11-18—**Philadelphia, Pa.** Automobile show.
11-18—**Buffalo, N. Y.** Automobile Dealers' Association Show, 174th Regiment Armory.
11-18—**Newark, N. J.** Automobile Trade Association Annual Show.
11-18—**Milwaukee, Wis.** Automobile show.
12-18—**Cincinnati, O.** Automobile show.
14-17—**Lexington, Ky.** Automobile show.
18-25—**Baltimore, Md.** Automobile show.
18-25—**Brooklyn, N. Y.** Motor Vehicle Dealers' Association Automobile Show.
18-25—**Harrisburg, Pa.** Annual Automobile Show of the Harrisburg Automotive Trade Association.
18-25—**Hartford, Conn.** Automobile show.
18-25—**Pittsburgh, Pa.** Automobile show at Motor Square Garden.
18-25—**Montreal, Canada.** Automobile Trade Association National Eastern Canadian Motor Show.
18-25—**Louisville, Ky.** Automobile show.
18-26—**Boston, Mass.** Annual Automobile Show.
18-26—**Los Angeles Cal.** Seventeenth Annual Automobile Show.
20-25—**Huntington, W. Va.** Automobile Show.
20-25—**Rochester, N. Y.** Automobile show.
21-24—**Detroit, Mich.** Society of Automotive Engineers' Annual Meeting.
25-Feb. 1—**Chicago.** National Automobile
25-Feb. 1—**Columbus, O.** Automobile Show.
25-Feb. 1—**Washington, D. C.** Automobile Show.
25-Feb. 1—**Cleveland, O.** Show at Public Auditorium, auspices of Cleveland Automobile Manufacturers and Dealers' Association.
25-Feb. 2—**Copenhagen, Denmark.** Motor show.
27-28—**Chicago.** National Automobile Dealers' Association Convention.
27-Feb. 1—**Portland, Me.** Automobile Show.
27-Feb. 1—**Wilkes-Barre, Pa.** Automobile show.
27-Feb. 4—**Jersey City, N. J.** Hudson County Automobile Dealers' Show.
29-31—**Cleveland, O.** Ohio Association of Commercial Haulers' Convention.
29-Feb. 1—**New Haven, Conn.** Automobile show.

FEBRUARY

1- 8—**Minneapolis-St. Paul.** Automobile show.
1- 8—**San Francisco.** Pacific Automobile show at Civic Auditorium.
3- 8—**Cumberland, Md.** Automobile show.
3- 8—**Ottawa, Canada.** Motor show.
3- 8—**Syracuse, N. Y.** Automobile Show.
3- 8—**Toledo, O.** Automobile show.
3- 8—**Wichita, Kan.** Automobile show.
4- 8—**Peoria, Ill.** Automobile show.
4- 9—**St. Louis, Mo.** Automobile Show.
8-15—**Los Angeles, Cal.** Automobile Salon.
8-15—**Kansas City, Mo.** Automobile show.
8-15—**Allentown, Pa.** Lehigh Auto Trade Association Automobile Show.
10-15—**Indianapolis.** Automobile show.
10-15—**Denver, Col.** Automobile snow.
10-16—**Sheboygan, Wis.** Automobile Show.
12-15—**Mankato, Minn.** Automobile Show.
15-22—**Providence, R. I.** Automobile show.
17-22—**Omaha, Neb.** Automobile Show.
20-22—**Holyoke, Mass.** Automobile Show.
24-March 1—**Camden, N. J.** Automobile Show.
24-March 1—**Des Moines, Ia.** Automobile show.
25-March 2—**Seattle, Wash.** Automobile show.

MARCH

3- 7—**Boston, Mass.** Automobile Salon of fine cars.
16-30—**Nice, France.** Automobile exhibition.

APRIL

12-27—**Milan, Italy.** Italian International Automobile Show.

TRUCK DISTRIBUTORS IN PHILADELPHIA ARE REPORTING INCREASES

Philadelphia, Dec. 19.—Additional reports from truck distributors in this section bear out earlier reports of increased sales during November.

Hahn Motor Truck Corporation and Selden Motor Truck Corporation," 1509 West Clearfield St.: "Business has increased considerably over that of last year for the combined corporations. The trend is toward the two and one half ton truck, for which there has been a heavy demand. We not only expect good spring orders, but we anticipate doubling out 1930 business over that of the present year."

Thornton-Fuller Automobile Company, Dodge truck division, 24th and South Streets: "We have received some big orders recently. Business as a whole is very good, and the most active models at this time are from one ton down."

Riker Motor Truck Agency, 2200 Diamond St.: "The best selling models with us right now are the 'speed' trucks or those of three-quarter ton to one ton, pneumatic tire equipped."

HOPKINS & KIPP OPENS NEW PLANT

Akron, O., Dec. 19.—Specialized super-service is the keynote of the Hopkins & Kipp Auto Electric Company, which has just completed and opened its new plant here.

The new home of the firm is one of the most modern and best equipped in the Akron area. Service offered includes speedometer, starting, light and ignition, oil systems, radiator, shock absorbers and battery charging and inspection.

The plant features the complete Delco ignition and electric line as well as complete Delco battery service and sales.

R. F. Collins is manager of the parts department, and E. L. Cox manager of the electrical department. For three years Cox was a member of the firm of Cox & Martin.

Walter Laskin heads the Delco battery department.

Plant Extension

Kenosha, Wis., Dec. 19. — The Snap-On Wrench Company, with factory in Milwaukee and offices in Chicago, let contracts here for the construction of a new $200,000 plant in Kenosha, which will succeed its Milwaukee and Chicago locations. The company holds large contracts with automobile manufacturers for wrenches, and the new facilities will double its production capacity.

Newark, N. J., Dec. 19.—With a 50 per cent. increase over 1928 and anticipation of 50 per cent. greater volume in 1930 over this year is the record of Automotives, Inc., 32 Eclid Ave., this city, which is doubling its capacity by the addition of a department for the manufacture of seat covers, top recovers, shop suits and counter coats with emblems of cars and dealers. The expansion is to cost $50,000, according to Paul M. Lockwood, treasurer. For 1930 the concern is introducing a full line of seat covers in four styles and selection of ten fabrics for all makes of cars; wedge pillows for drivers and "fender spats." These additions to the present lines will make Automotives, Inc., one of the largest and most complete manufacturers of automotive fabrics in the country.

Cleveland, Dec. 19.—The Dill Manufacturing Company will build an additional operating plant for the manufacture and sales of an automatic gasoline and oil economizer.

Houston, Dec. 19 (UTPS).—F. C. Pruitt is building a new automobile spring factory here. The building will cost approximately $20,000 and will be completed in about sixty days.

SHAW AND INGERSON TO DO SPECIALTY SERVICE

Jamestown, N. Y., Dec. 19.—William Shaw and Kenneth Ingerson, until recently identified with the service department of the Pickett Motor Sales, Inc., Oldsmobile and Viking distributor, have formed a partnership known as Shaw and Ingerson. A building has been acquired at 1080 East 2d St., where machinery and equipment has been installed to specialize in Oldsmobile, Viking and Durant service.

AN
ACCO
PRODUCT
Tru-lay Cable
Is Preformed
Not Twisted
The illustration at the left shows the unseized end of Tru-Lay Preformed Wire Cable. Below it is an end of ordinary wire cable, showing how the end must be seized in order to keep the strands and wires from flying apart.
It is this feature of Tru-Lay Preformed Wire Cable which not only makes possible the application of Tru-Loc Fittings—but preforming also relieves internal stress, which adds greatly to the life of the cable.
AMERICAN CABLE COMPANY,
Incorporated
An Associate Company of the American Chain Company, Inc.
3-111 General Motors Building
Detroit, Michigan
Executive Offices: New York Central Building, 230 Park Avenue
New York, N. Y.
TRU CABLE LAY
TRU FITTINGS LOC
TRU BRAKE CONTROL STOP

The ten-cent stores report no increase in tin cup sales!

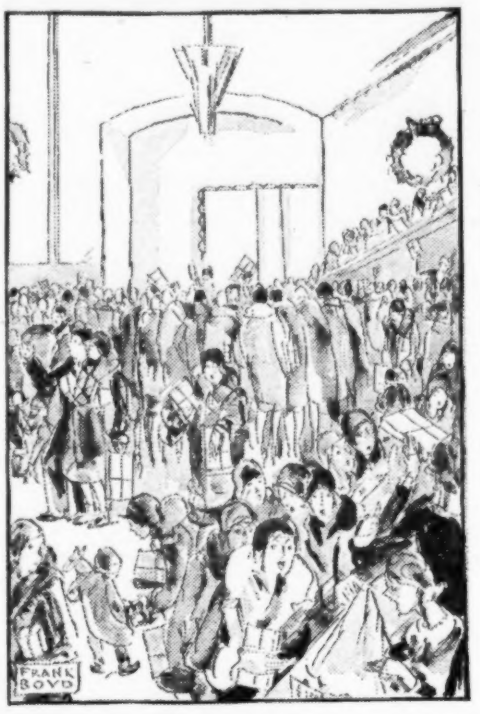
A FRIEND of ours from Detroit came to town recently, and wanted to see the breadlines.

"Where," he asked, "are the hordes of impoverished poor, the lambs who have lost their all? Are the lists of suicides being suppressed? Isn't the Red Cross doing anything?"

We told the waiter to bring plenty of ice, and questioned him gently. It seems he had been a regular reader of the financial funny papers, and thought New York was wrecked by the recent unpleasantness in Wall Street.

A couple of hours of brisk first aid pulled him through all right. We showed him people still smiling in the subway, and the children still coming to see Santa Claus in the stores. He nearly lost his overcoat in the mobs on Macy's escalators. His sanity was wholly restored when his favorite scalper offered him a bargain of four Scandals tickets for forty dollars.

Even if you are excessively sensitive and hate to see suffering, you needn't stay away from New York during Show Week this year. Like your competitors' accounts of what is wrong with your car, the effect of the security decline in New York has been considerably exaggerated.



FOR THE benefit of any other fearful friends in Detroit, we add a few items of good cheer:

Since the stock market drop, four times as many new saving accounts have been opened in the past four weeks in Manhattan alone (Manhattan is only one of five New York City boroughs) as in the entire state of New York last July. (From an advertisement of the Central Savings Bank, in the Daily News of Dec. 9.)

S. W. Straus & Co. report sales of Straus bonds for November of $9,123,027—an increase of 13.1% over the same month last year; but an increase of 46.9% for the New York metropolitan district.

And in *Printers' Ink* of December 5, there is a significant story about the small stockholder. Seventeen large corporations report an increase in stockholders averaging 35%, as of November 8 compared with prior to September 20 of this year.

The department stores are doing very well, and as usual, are adding employees at this time of the year.

APPARENTLY, all is not lost in our fair city. There are and will be lots of families able to make the first payment on a 1930 model; very able, but it is up to you to make them willing. And that's where we come in:

This coming year, more than ever before, your advertising dollar must earn its sales commissions. You can save money by using The News because it brings your selling story to more people for much less money. And you can make money with The News because it delivers your story more effectively to seventy percent of New York City families and a fifth of those in the suburbs. Read by most of the families in the income groups which buy most of the cars, The News offers majority coverage in a single medium at a single cost!

For your sales' sake, investigate!

THE NEWS

NEW YORK'S PICTURE NEWSPAPER

25 PARK PLACE, NEW YORK

Tribune Tower, Chicago + Kohl Bldg., San Francisco

In Jobber Field

INDIANA JOBBERS REPORT INCREASE

November Business Is Above Average in Many Lines

INDIANAPOLIS, Ind., Dec. 19.—November jobber business in this district was above the average for that month, according to the reports of several leaders in the local field.

Buying demand, however, continued as for some time past to be of the hand to mouth nature with supplies and replacement parts moving on a satisfactory basis.

Officials of the Gibson Company, rated as one of the largest wholesale firms in the world, say last month's business was ahead of the same month of 1928, when a November record was established. This did not include operations of Gibson branches at Lima, O., South Bend, Ind., and Kalamazoo, Mich., where sales were said to be highly satisfactory.

Chief demand for supplies was coming from garage and repair men, according to J. M. Bloch, head of the Gibson Company, but purchases were being made only as the material was needed.

At United Motors Service headquarters service and sales were said to be far in excess of the record of a year ago. Expansion of this service, a unit of General Motors, was necessitated a few months back, and further expansions appear as imminent possibilities due to the growth of upkeep and parts demand. United officials say this year will be the best in the history of the local branch.

G. B. Ely, head of Auto Equipment Company, reported that November trade was practically on a level with that of November, 1928, but held this to be a satisfactory state. The equipment company, jobber of several standard lines, announces the discontinuance of the accessory business, due to the tendency of manufacturers equipping cars with every essential and convenience which, Mr. Ely said, limits the accessory trade to replacement.

Other jobbers and wholesalers were of an optimistic frame of mind over November's transactions, an early cold wave having resulted in an unusually heavy demand for car heaters, included in the lines of all. There was a marked trend toward the higher priced heaters, dealers here agreed, this class of merchandise assuming major importance in the local trade.

Review of the parts field leaves the impression that motorists are having their old cars repaired rather than buying new ones.

WESTERN AUTO SUPPLY CLOSES LAMP CAMPAIGN

Louisville, Ky., Dec. 19.—Announcement is made here that the Western Auto Supply Company, has brought to a close its sales campaign, conducted in close co-operation with the Edison Lamp Works, of the General Electric Company, the company in its chain of automotive supply stores having sold 53,000 Edison Mazda automobile bulb kits, or more than 311,000 individual bulbs, in the thirty-day campaign which was in connection with "Light's Golden Jubilee." The Louisville store sold 863 kits and 368 individual bulbs during the contest, according to A. H. Miller, manager.

CASCO PRODUCTS CORP. REPORTS 45% INCREASE

Bridgeport, Conn., Dec. 19—Business for the first nine months of 1929 was 45 per cent. greater than in the 1928 period, according to J. H. Cohen, president of Casco Products Corporation, this city, makers of cigar lighters for cars. Prospects for the coming year are promising, Mr. Cohen stated. During 1928 the company occupied 20,000 feet of additional floor space.

Several new models are to be offered in 1930, according to the official, including one intended for the 1929 market, but which was not put in production early enough. The Casco company claims to manufacture 98 per cent. of the lights installed in stock cars as regular equipment.

Editor's Column

THERE are two extremes to be found today in the jobbing industry. At one end is the jobber who spends so much time and money keeping records that he has little left for anything else. A considerable portion of these records are practically useless, because he does not, and perhaps cannot, use them in an effective manner.

At the other end is the jobber who keeps practically no records of his business, who depends upon good luck and what judgment he has to make ends meet and perhaps realize a little net profit. Both these types of men rarely ever continue to prosper. They sometimes fail after they have built up large and profitable businesses.

Business records do no good unless they are used. No business can be conducted with any degree of safety on guesses. It is necessary to keep all those records that are needed and use those records to increase the net profits of the business. One must know exactly where his business stands at all times if he is to apply his good judgment most effectively.

A man who has been eminently successful in rebuilding run-down business concerns has this to say: "Don't keep a single record that you do not use. Keeping such records is sheer waste of money. Decide what you ought to know about the business, what you must know about the business, what you must know to make it pay the greatest possible net profits. Then keep these records and use them. Use them continuously. In this way you can keep costs down to the minimum and profits at the maximum."

With the approach of the new year, it is an excellent plan to examine the bookkeeping system, the record system, with the most careful attention. Either begin using those records now being kept, but not used, or stop keeping them.

JOBBERS from coast to coast forecast that 1930 will be the biggest parts-and-repair year in history.

Many reasons are assigned to support this forecast. Among these are:

First: The huge production of new cars two and three years ago is now coming into the parts and repair field.

Second: Many cars that were formerly four and eight cylinder cars, thus requiring more parts and substantially increasing the potential market possibilities.

Wholesale Brevities

Newark, N. J., Dec. 19.—W. E. Pruden Company of this city, automotive jobber, has announced the addition of George Bell and A. Cook as salesmen.

Lincoln, Neb., Dec. 19.—The Duda-Myers Company of Hastings, and Norfolk has obtained a lease on a recently erected building at North Platte, Neb., and will open an establishment there. The company is said to be one of the largest concerns for the distribution of automobile parts in Nebraska, with an annual business of $1,000,000.

Hackensack, N. J., Dec. 19.—Edward Cahill is now in charge of the inventory system of the Standard Motor Parts Company of this city and Paterson.

Utica, N. Y., Dec. 19.—Utica Gear and Parts Company has recently enlarged its mechanical service department. It has added a large regrinding machine which enables it to recondition blocks by any desired method.

St. Louis, Dec. 19.—Authorized Motor Parts Corporation has added three new Ford delivery trucks to speed up service on parts.

Binghamton, N. Y., Dec. 19.—Whipple's treated all its salesmen to a trip to the Chicago M. E. A. show as a reward for their successful spring and summer equipment campaign.

WISCONSIN AXLES

Wisconsin superiority has been demonstrated for more than ten years; it can be demonstrated on any test. Built for trucks from 1½ tons to 7 tons, for busses and 6 wheelers.

WISCONSIN AXLE CO. Oshkosh, Wis.

U. S. Industrial Alcohol Profits by Early Cold Weather; Earnings Grow

New York, Dec. 19.—Coming of extremely cold weather in many parts of the country this year earlier than usual has meant increased business for the U. S. Industrial Alcohol Company, which controls a large part of the sales of alcohol for automobile radiator anti-freeze purposes.

This increased business, on top of already highly satisfactory earnings for the earlier months of the year, may mean that the company will declare an extra dividend of around $1 a share at the next meeting of the directors.

The common stock is now on a $6 annual basis and this was almost entirely earned in the first six months of this year, when the net income amounted to $5.30 a share. Favorable earnings in the current quarter, and such earnings seem highly probable, would justify the extra payment, according to well informed financial circles.

Earnings for 1929 are being estimated at around $5,000,000, as compared with $3,703,000 in 1928, when the per share net was $11.81.

It is said here that a split-up of the common shares of the company is considered very unlikely.

PUBLIC SERVICE BUS TERMINAL IN NEWARK TO BE READY JAN. 10

Newark, N. J., Dec. 19.—The new bus station on the upper level of the Public Service Terminal will be ready for use by the long distance and interstate coaches of Public Service and several other lines on or about January 10. The buses will enter the building on an inclined roadway. New platforms and stairways have been constructed. Waiting rooms and other facilities for passengers also have been built on the upper level.

It has been expected that the new station would be ready before Christmas, but delays were encountered in finding ventilators adequate to carry off fumes from the motor exhausts. Installation of escalators also took longer than had been expected.

The new facilities will take the place of the present bus stand in front of the terminal and will make unnecessary the downstairs waiting room space that was roped off several months ago for patrons of the long distance lines.

L. BAMBERGER & CO. ADDS 10 FEDERALS

Newark, N. J., Dec. 19.—L. Bamberger & Co., department store operator here, has recently added ten Federal trucks, bringing its total Federal fleet to 117 units.

TWO NEW BUS TERMINALS IN PHILADELPHIA WILL COST NEARLY $600,000

Philadelphia, Dec. 19.—A covered structure, to be known as the Main Bus Terminal, to house, at the beginning of the enterprise, fleet units of the Frank Hertz Coach Company, the Colonial Atlantic and Pacific Stages and Schultz Management, affiliated with the Public Service Company of New Jersey, is proposed by William Hyman, proprietor of the Windsor Hotel, Filbert Street, between 12th and 13th Streets. Hyman would remodel buildings at 1229-1233 Filbert Street, adjoining the hotel, at a cost of approximately $80,000, including equipment, for the proposed terminal, which would be for the benefit of interstate bus lines.

According to the tentative plans, six buses could be loaded at one time under cover and the building would contain the offices of the terminal, women's rest rooms, general waiting rooms for patrons and a restaurant on the ground floor. The Nevin Bus Terminal, which has been in operation for a year or more, is across the street diagonally from the new site.

Plans for still another bus terminal on Filbert Street, also between 12th and 13th, are under consideration by the Colonial Trust Company, which owns most of the property in the block. Tentative plans are for a six-story bus terminal to be erected on property there now being razed. The building, which would cost about $500,000, would contain garage space, stores and recreation rooms.

NEW TAXI CO. OPENS AT FORTH WORTH, TEX.

Fort Worth, Tex., Dec. 19.—O. A. Roberts, organizer of the Yellow Cab Company here in 1921, today announced the opening of the Biltmore Cab Company, a new Fort Worth concern. Roberts recently sold his interest in the Yellow Cab Company to interests headed by Earle M. North. The new company will operate nineteen Ford and five Packard taxicabs.

Buffalo, Dec. 19. — Wilbur F. Groom, president of the Groom Corporation, Oakland-Pontiac distributor in this district, was elected a director of the Buffalo Automobile Club for a three-year term, at its recent annual meeting.

CUMULATIVE NEW PASSENGER CAR REGISTRATION TABLE, NOVEMBER, 1929

Some of this data has been previously published, but it is given here complete for the convenience of our subscribers

Returns for today: Connecticut, Florida

States	Auburn	Black Hawk	Buick	Cadillac	Chevrolet	Chrysler	Cord	DeSoto	Dodge	Durant	Elcar	Erskine	Essex	Ford	Franklin	Gardner	Graham-Paige	Hudson	Hupmobile	Jordan	La Salle	Lincoln
Arkansas			34	5	585	27		28	67	14		2	28	1031			10	6	12		3	2
Conn'icut	21	1	132	50	403	65	3	108	225	24		7	165	595	21	5	57	41	70		54	14
Delaware	3		17	7	84	4			3	3			12	174	2		1	2	3		8	
Florida	6		99	9	526	45	2	20	38	6		1	82	1033	10		39	31	36		12	4
Illinois	26	5	448	97	1233	211	25	135	497	63	3	8	490	2529	43		103	238	156	5	126	24
Kansas	2		56	3	447	20		14	43	15		1	33	720	1		9	18	10		5	6
Maryland	3	3	100	9	530	54	2	45	92	20			113	787	8		33	34	37	3	22	4
N. Hamp.	1		33	2	120	14		18	13	19		1	24	184	5		11	8	5	2	5	
N. Dakota	1		15	1	153	8		9	20	6			12	307			8	4	1		2	1
Rh. Island	6	2	73	8	128	59	1	46	42	16		1	38	227	6		25	7	16		18	1
S. Carolina	1		38	1	661	26		15	27	4		2	30	997	1		3	14	15	1	6	
S. Dakota	1		31		326	20	4		45	13		2	28	421			13	10	24		1	
Utah	4	1	19	4	171	10		12	14	24			24	319	3		9	15	10		2	1
Wash'gton	9		68	7	354	47	6	44	44	52			77	701	2		25	22	30		9	2
Wisconsin	4		130	10	669	52	1	48	192	33		8	175	1127	7		27	78	18	1	11	
Totals	87	12	1293	213	6390	662	44	542	1362	312	3	33	1331	11152	109	5	373	528	443	12	284	59

States	Locomobile	Marmon	Marquette	Nash	Oakland	Oldsmobile	Packard	Peerless	Pierce-Arrow	Plymouth	Pontiac	Reo	Roosevelt	Stearns-Knight	Studebaker	Stutz	Viking	Whippet	Willys-Knight	Winsor	Miscellaneous	Totals
Arkansas		2	8	34	5	6	5		2	51	35	4			6			37	10			2,059
Conn'icut		11	11	105	28	45	82	10	14	71	138	25	19		71	9	3	36	25		3	2,759
Delaware			2	16	6	5	7		1	7	12				6			9	2		9	405
Florida		2	11	27	25	30	25	1	3	31	54	10	5		15	1	3	36	6			2,284
Illinois		25	36	283	82	213	179	14	22	165	266	49	25	2	176	13	14	122	37	1	9	8,198
Kansas		3	3	27	9	12	3	1		32	54	7	2		17			46	5			1,624
Maryland		2	12	64	14	40	33	7	4	40	80	19	6		33	3	1	43	13			2,313
N. Hamp.		1	5	34	5	14	10			16	24	10	4		7			16	9		1	621
N. Dakota		1		9	6	10				28	20		1		1		1	30	5		1	661
Rh. Island		4	6	39	11	24	19	9	14	33	39	20	5	1	27		1	27	9		2	1,010
S. Carolina		4	9	11	4	15	4			32	32	1	7		15		1	11				1,987
S. Dakota			7	21	6	37	3			48	27	3	1		16		3	42	5			1,158
Utah			3	19	2	12	4			13	17		2		5	2		12	2			735
Wash'gton		2	11	26	14	40	15		1	53	37	5	3	1	41		1	22	22			1,793
Wisconsin		2	15	142	46	60	18	4	11	68	121	16	2		59	2	4	72	7		6	3,246
Totals		59	139	857	263	563	407	46	72	688	956	169	82	4	495	22	32	561	157	1	31	30,853

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies

Cumulative New Commercial Car Registration Table, November, 1929

Some of this data has been published previously, but it is given here complete for the convenience of our subscribers.

Returns for today: Florida, Washington and West Virginia

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Dover	Fargo	Federal	Ford	G. M. C.	International	Mack	Pierce-Arrow	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys-Knight	Miscellaneous	Totals	States
Arkansas			252	1	7		1		302	1	23	1		1	7						8	2		2	608	Arkansas
Delaware			19		4		1		38	2	2														69	Delaware
Florida			163		11	3			247	1	9	1			5						3	2			447	Florida
Illinois	3	2	173	20	59	1	10	5	620	31	68	6	1		30				3		16	12		94	1154	Illinois
Kansas		1	62	1	9		2		121	1	13				6	1			1	1	3	2		1	225	Kansas
New Hamp.		1	37	1	6			2	86	5	8	1	1		5		1		1		1			1	157	N. Hamp.
Nor. Dakota			44		6		1		61	1	19				1		1				5				139	Nor. Dak.
Rh. Island	12	2	40	1	18		2	8	97	9	12	7			13			4	6			4		7	242	Rhode Isl.
So. Carolina			137		7		4	1	130	7	7				1					1	1	1		2	299	S. Carolina
So. Dakota			70		6		1		50		32				3						9				171	S. Dakota
Utah			32		4		1		117	6	5				4		1					2		1	173	Utah
Wash'gton			57		8	2	2		153	5	7	4			4		2			1	1	4		4	254	Wash'ton
W. Virginia		5	80	2	29	1	2		135	9	12	1		1	4	1			1		3		1	2	289	W. Virginia
Wisconsin			157	6	19	4	2	2	276	6	27	2			7			1	4	4	16	6		10	549	Wisconsin
Totals	15	16	1323	32	193	11	29	18	2433	84	244	23	2	2	90	2	5	5	16	7	66	35	1	124	4776	Totals

Figures in this table are from R. L. Polk & Co. of Detroit, with exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies.

Commercial Car Registrations do not include buses.

Production -- Engineering -- Factory

Recent Progress in Motor Transportation

Favary Discusses Six-Wheel Trucks and Six-Cyl. Engines

IN the current issue of the Moreland Magazine, official house organ of the Moreland Motor Truck Company, Burbank, Cal., Ethelbert Favary, consulting engineer of the Moreland Company, calls attention to interesting recent progress in motor transportation.

This covers both the engineering and merchandising angles of the motor truck industry and is reprinted herewith in full as follows:

By ETHELBERT FAVARY

ABOUT twenty years ago the term "saturation point" in connection with automotive vehicles was very much discussed and feared by the industry. Today we have forgotten all about the saturation point, the use of automotive vehicles still growing continuously.

The question of the saturation point was a question only as long as the automobile was considered a luxury. Today it is a necessity, for it brings about an economic gain, be it for the private owner who employs it in his business, rather than relying on other means of transportation to take him from place to place, or for corporations which could not prosper without it. Today the motor vehicle is the "backbone" of many branches of business and industry.

The motor vehicle of today is cheaper than it was in 1914, while the cost of living is considerably higher. For instance, taking the 1914 value of the dollar for general merchandise, foodstuffs, etc., as costing 100 cents, that same 100 cents gives us today only 62 cents of value compared with 1914, while for every 100 cents which purchased a dollar's worth of automobile in 1914 we today get 113 cents' worth of value. This, of course, is due solely to the quantity production of vehicles and their parts.

The progress made in motor vehicle design and construction is just as great as, or greater than, it has been at any time. The refinements are giving increased safety and increased comfort as well as decreasing the cost of maintenance.

Among the items of recent improvements might be mentioned—improved lubrication, improved springs, upholstery and better riding vehicles; improvements in engines designed for smoother operation and for a higher thermal efficiency; improvements in transmissions and last, but not least, an improved appearance. All these are doing their share in inducing owners to change their old models for new cars.

In motor freight transportation improvements have perhaps been even more marked. In order to keep abreast of the times, which calls for greater speeds and higher earnings from a given investment, may be cited the demand for pneumatic tires on even the heaviest of trucks, six-cylinder engines, four-wheel brakes for all types of trucks, multi-speed transmissions and six-wheel trucks.

I will briefly mention the advantages derived from the last items, or rather their result, upon motor transporation. The demand for increased speed necessitated pneumatic tires and six-cylinder engines. By an increased speed it is possible for the truck to cover greater distances, and since the driver's wages and the investment are fixed items the increased speed brings about lower costs per ton mile. The increased speed necessitated four-wheel brakes for adequate safety.

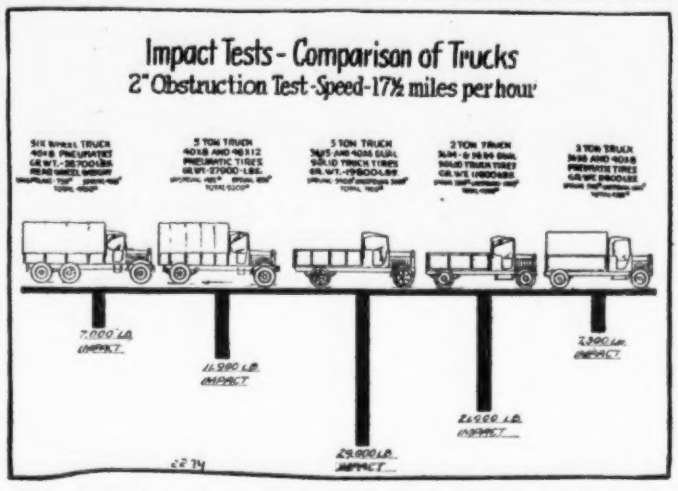

Impact Tests - Comparison of Trucks
2" Obstruction Test - Speed - 17½ miles per hour
7,000 LB. IMPACT
11,280 LB. IMPACT
25,000 LB. IMPACT
24,000 LB. IMPACT
7,390 LB. IMPACT
22.74

FIG. 1—Tests made by government prove 6-wheel trucks much superior to 4-wheelers. Illustration gives results of impact tests showing 6-wheeler with heavy load less severe on highways than 4-wheel trucks with light loads

In order to still further increase the amount of work done by one man and one unit the capacity of the truck has been increased; this brought about the six-wheel truck construction. To make trucks more flexible and to run the engine at a more efficient speed necessitated the use of multi-speed transmissions. Transmisisons with seven (or more) speeds forward and two reverse are now quite common for trucks from about four tons up.

Pneumatic Tires

Pneumatic tires permit greater speed of travel, while at the same time increasing the riding quality of the vehicle. An increased cushion for the chassis mechanism decreases the vibrations arising from road shocks. As is well known, vibrations will cause fatiguing of metal parts and finally breakage. Pneumatic tires are, therefore, increasing the life of the chassis and decreasing the cost of maintenance and repair. Pneumatic tires give increased speed because they have lass traction resistance over the average road than the solid tire. Solid rubber being slow in action, a certain amount of energy is consumed in compressing the rubber which is not returned to the wheel as it rotates.

Six-Cylinder Engines

Up to a comparatively recent date the four-cylinder engine was almost exclusively used for trucks, because six-cylinder engines were not particularly suitable for trucks. New developments and improvements made in engine design and construction have rendered the present six-cylinder engine far more economical and more efficient in service.

The advantages of the present day six-cylinder truck and motor bus engine may briefly be summarized of follows: Greater efficiency (thermal efficiency, that is); more power developed by the engines for a certain amount of gasoline used; reduced vibration; due to several distinct causes; quicker getaway, due to increased acceleration; more power developed for a given engine weight and increased speed; smoother operation, resulting in longer engine and chassis life, and decreased cost of repairs to engine and the entire chassis.

In most engines operating on the road over 75 per cent. of the power contained in the gasoline is lost, the loss being composed of heat losses through the cylinder walls and through the exhaust.

A gasoline engine is a heat engine which transforms the heat arising from the combustion of the gasoline into mechanical power.

The six-cylinder engine was formerly less efficient because for a given amount of total cylinder volume there is a greater area of cylinder wall exposed to the hot gases than with four cylinders and this causes greater thermal losses.

In other words, the amount of cylinder wall area coming in contact with the explosive gases increases with the number of cylinders (for the same total volume of fresh charge) and as the temperature during the explosion is about 4,000 degrees Fahrenheit while the water used for cooling is at a comparatively low temperature, it can easily be realized how large is the amount of heat wasted through the cylinder wall.

Reasons for High Efficiency of Six-Cylinder Engines

The maximum pressure derived from the combustion of the explosive mixture in the cylinder is about four times the absolute compression pressure. If the mixture were compressed to 65 pounds gauge pressure, which is 79.7 pounds absolute pressure, the resultant pressure upon ignition would be about 320 pounds per square inch.

Evidently the greater the compression pressure the greater is the resultant pressure after ignition and the higher is the engine efficiency. Fuel mixtures cannot be compressed more than a certain amount because fuel knocks appear; that is, detonation takes place. Detonation depends very largely on the temperature of the hottest portion within the cylinder and this is the center of the piston head. The piston head is chiefly cooled through the cylinder walls; hence the temperature of the piston-head center depends on the piston diameter and on the temperature of the water in the cylinder jacket.

By using a six-cylinder engine it is possible to use smaller pistons for the same power output; therefore, the center of the piston head remains cooler, the water temperature can be increased, thereby reducing the heat losses through the water jacket, and this added to the higher compression pressure gives higher engine efficiency.

Due to the large number of power strokes per minute and to the smaller diameter of the piston, the lighter weight of reciprocating parts, and the smaller varying stresses in the crankshaft, the vibrations are greatly reduced and this results in decreased cost of repairs and maintenance.

Multiple Speed Transmissions

Gasoline engines give their greatest efficiency at a given speed and a given torque. By using 7-speed transmissions it can easily be understood that the engine can be run for a greater length of time at its most efficient speed; also when going up grades the truck speed can usually be greater when there is a 7-speed forward transmission than when there are only four speeds.

Six-Wheel Truck

Six-wheel truck production is of comparatively recent date and it may be interesting to note that the Moreland Motor Truck Company was the first in production among all truck companies in this country or abroad. To protect the highways from undue wear and tear practically all the states limit the weights on motor trucks. Government tests have shown that it is not the gross weight of a truck but the wheel load which causes destruction of the road; hence by increasing the number of wheels it is possible to carry a heavier load on the truck and yet destroy the road to a smaller extent.

The attached diagrams show the result of tests conducted by the United States Bureau of Public Roads and are self-explanatory. It shows, however, that the six-wheel truck with pneumatic tires when carrying an 8¾-ton payload shows smaller impacts than a 2-ton truck on pneumatic tires. (See Figs.)

Besides, the riding comfort is greater with six-wheel trucks because, the two rear axles are balanced, as shown in Fig. 2; that is to say, when one axle or one wheel should rise, say six inches, the frame only rises one-half the amount of what it would with four-wheel trucks.

All these improvements were made to accomplish one purpose—reducing the cost of transportation.

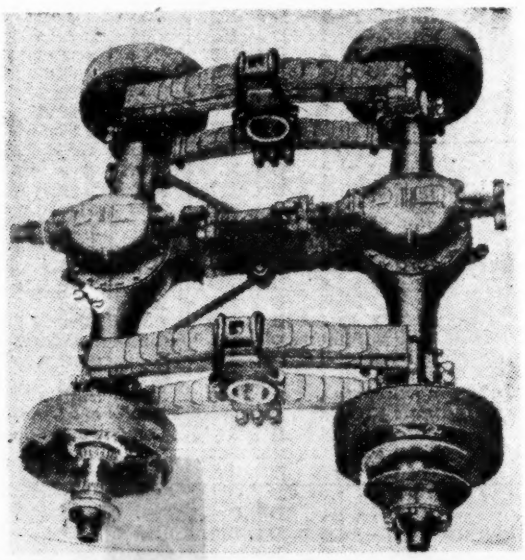


Fig. 2—Moreland Heavy Duty 6-wheel Construction

Engineering for Economy

Col. Downey Cites Need For Understanding Among Departments

THAT each department of a large corporation have a complete knowledge of the work that is being carried on in the other departments of the same corporation is essential to the economic operation of the whole was the gist of an address recently before the Detroit Section Society of Automotive Engineers, by Col. A. C. Downey, director of purchases for the Chrysler Corporation.

Mr. Downey's address was entitled "Engineering for Economy." It is reprinted in part herewith, as follows:

"The history of early automotive corporations indicates that from a personnel standpoint, they were unbalanced.

"The average corporation was brought into being through the efforts of an inventor, an engineer, a production man or an enthusiastic salesman, and this individual impressed indelibly upon the product and policies of the corporation his own peculiar personality, ideas and policies.

"Experience soon dictated the fallacy inherent with this type of organization. We all have a different perspective on the human race. We are all more or less in possession of what is commonly called single-track minds.'

"The failure of many of the old automobile companies may be directly charged to this situation. It is, therefore, not unusual to find that the modern automobile corporation embraces within its personnel a group or variety of minds. Each man may be a specialist in his particular line, and his fundamental contribution to the welfare of the corporation will be upon the subject matter in which he specializes, but he will contribute, in addition, thereto, those individual viewpoints which, in the aggregate, are so essential in connection with the proper conduct of business.

"It seems to me that the organization of the average corporation not only does, but must and should, follow the so-called theory of checks and balances which has been so necessary and so successful in the conduct of our governmental affairs. In government we have the legislative, the executive and the judicial branches, each exercising definite functions and having definite prerogatives, but each also acting as a check or balance on the other departments. In the modern corporation we have generally the engineering, the production, the sales and treasury departments, each exercising its own functions and having its own prerogatives—each acting as a check or balance on the other.

"This is one of the fundamentals of economy. This type of organization prevents one isolated department from unknowingly performing its functions in an extravagant manner. Should the engineering department, in its endeavor to attain a given result, give birth to an extravagant design under this system of organization, it then not only becomes the right but the duty of the production and likewise the purchasing department to bring this matter to the attention of the engineering department.

"There was a time in the past, I am told, when this theory of organization did not produce the desired results for the reason that the engineer resented any discussion or criticism of his design. This condition fortunately has passed, and today the modern engineer welcomes the advice and counsel of the heads of other departments and, in fact, if he is a good engineer, he voluntarily solicits a discussion of the matters involved.

"The modern engineer should be and he very generally is not only an engineer but a business man as well. The modern engineer is usually a stockholder in the corporation in which he is employed. He may on the one hand have a professional desire to attain the ultimate in anything which he designs, but this desire will be tempered by the knowledge that the public is the final arbiter and that a design, no matter how perfect, which does not cause public acceptance and which results in excessive cost, will result in decreased sales, smaller margins of profit and consequent depreciated stock values.

"I think, therefore, it is safe to say that the engineer who tries to create a masterpiece has missed his calling. His experiments in the automotive field may result in a car of which he can be justly proud, but, in the final analysis, the balance sheet issued by the treasurer of the corporation provides the true measuring stick by which we may evaluate the merit of his accomplishment.

"And, while we are on this subject, my mind goes back to the oft repeated statement relative to the fallacy of building to a price, and this statement in the main is correct, but there is a distinction. It is necessary in this industry at this time to build to a price class, and by that I mean simply this: It is the duty of the directing head of any institution, in conjunction with his sales manager, to determine the type and price class of car which should be designed by the engineering department, and this information, having been conveyed to that

(Continued on Page 12)

CLARK

STRENGTH—
beyond any normal need.

LOW COST—
due to large volume production.

ACCURACY—
assured by special automatic machines.

CLARK METAL WHEELS

CLARK EQUIPMENT COMPANY
Buchanan Michigan

AXLES
Front & Rear
WHEELS
Single or Dual Tire
CAST STEEL HOUSINGS
TRANSMISSIONS

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—tons	Chassis price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gearset	Location	No. Spds. for.	Rear Axle	Final Drive	Reduction in Low	Brakes, foot	Brakes, hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	
Am. La France Chief	2	3650	Own	6	3¾x5	33.0	Pw	Str	Vac	Rem	Own	C	4	Tim	Wo	31.2	4	D	156	6200	32x6	32x6 D
Am. La France W	3-4	3950	Own 2 R	4	4¼x6	28.9	P&S	Zen	Vac	A B	Own	C	4	Own	D R	47.4	D	R	160	7200	S 36x5	S 36x5 D
Am. La France S	4-4½	5200	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	Wo	54.4	D	R	165	8900	S 36x6	S 36x6 D
Am. La France V	5	5500	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	Wo	54.4	D	R	165	9800	S 36x5	S 40x6 D
Am. La France Z	6½	5750	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	Wo	63.5	D	R	165	10000	S 36x7	S 40x7 D
Am. La France U	7½	6000	Own 5 R	4	4¾x6	36.2	P&S	Zen	Vac	A B	Own	C	4	Own	—	63.5	D	R	165	10500	S 36x7	S 40x8 D
Am. La Fran. Big Chief	6		Own	6	4½x6	48.6	Pw	Zen	Vac	Rem	Own	C	4	Own	D R	32.8	W	D	226	10600	S 40x8	40x8 D
Autocar S A	1½	2700	Her	6	3¾x4½	33.8	Pb	Zen	Vac	L-N	Br-L 35	U	4	Own S A	Sp	27.9	4	R	150	4400	32x6	32x6
Autocar S D	2	3000	Her	6	3¾x4½	33.8	Pb	Zen	Vac	L-N	Br-L 35	U	4	Own S D	D R	33.9	4	R	150	4850	32x6	32x6 D
†Autocar H	3	3750	Own	4	4½x5½	32.4	C S	Str	Gra	A B	Own T	U	4	Own H	D R	48.9	R	R	114	5800	34x5 S	36x10 S
†Autocar S H	3	4000	Her	6	4⅛x4¾	40.8	Pb	Str	Gra	R B	Own T	U	4	Own H	D R	48.9	R	R	114	5800	34x5 S	36x10 S
Autocar T	3	5000	Her	6	4⅜x4¾	45.9	Pb	Str	Vac	R B	Own T	U	4	Own T	D R	72.5	R	R	187	7100	36x8	36x8 D
†Autocar H S	3½	4100	Own	4	4½x5½	32.4	C S	Str	Gra	A B	Own T	U	4	Own J	D R	55.2	R	R	114	6900	34x6 S	36x12 S
†Autocar S H S	3½	4400	Her	6	4⅜x4¾	45.9	Pb	Str	Gra	R B	Own T	U	4	Own J	D R	55.2	R	R	114	7000	34x6 S	36x12 S
Autocar T S	3½	5350	Her	6	4⅜x4¾	45.9	Pb	Str	Vac	R B	Own T	U	4	Own Chs	D R	81.7	R	R	187	7100	36x8	36x8 D
Autocar S C M	5	5000	Her	6	4½x4¾	48.6	Pb	Str	Vac	R B	Own B	C	4	Own M	D R	72.1	R	R	162	8600	34x7 S	36x14 S
Brockway 65	1	1195	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36020	Sp	21.3	4	Tr	137	3400	30x5	30x5
Brockway 75	1¼	1290	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Col 36020	Sp	25.6	4	Tr	137	3450	32x6	32x6
Brockway 90	1½	1525	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Col 55001	Sp	25.6	4	Tr	149	3850	32x6	32x6
Brockway Junior	1	1195	Wis C	4	3¾x5	22.5	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36020	Sp	21.27	4	Tr	130	3100	30x5	30x5
Brockway J F	1	1195	Wis F	6	3¼x4¼	25.4	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36020	Sp	21.3	4	Tr	137	3450	30x5	30x5
Brockway C J B F	1½	1475	Wis F	6	3¼x4¼	25.4	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 55001	Sp	21.3	4	Tr	149	3650	32x6	32x6
Brockway E	1½	1765	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	L-N	Br-L 30	U	3	Col 55001	Sp	21.0	4	Tr	139½	3650	32x6	32x6
Brockway S	2	2450	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	L-N	Br-L 35	U	4	Wis 4610	D R	38.79	R	Tr	150¼	5100	S 34x4	S 34x8
Brockway S Y	2	2950	Wis Y	6	3⅜x5	27.3	Pb	Zen	Vac	L-N	Br-L 35	U	4	Wis 4610	D R	35.3	4	Tr	151⅜	4950	32x6	34x7
*Brockway K	3	3420	Con K	4	4⅛x5¼	27.2	Pw	Zen	Vac	Eis	Br-L 35	C	4	Tim 65700	Wo	41.5	R	D	154⅛	5855	S 36x5	S 36x10
Brockway K R	3	3625	Con L	4	4½x5½	32.4	Pw	Zen	Vac	Eis	Br-L 55	C	4	Tim 65700	Wo	36.38	R	D	160⅝	6290	S 36x5	S 36x10
Brockway K W	3	3950	Wis H	6	4 x5	38.2	Pb	Zen	Vac	L-N	Br-L 51	U	4	Wis 1228	D R	33.7	R	D	170	6920	34x7	D 34x7
*Brockway R	4	4200	Con L	4	4½x5½	32.4	Pw	Zen	Vac	Eis	Br-L 55	C	4	Tim 66600	Wo	46.8	R	R	164	7890	S 36x5	S 36x12
Brockway T	5-7	5200	Con B 7	4	5 x6	40.0	Pw	Zen	Vac	Eis	Br-L 60	C	4	Tim 63700	Wo	53.5	R	D	175	10065	S 36x6	S 40x14
Chevrolet	½	400	Own	6	3⅛x3⅜	26.3	C S	Car	P	Rem	Own	U	3	Own	Sp	12.68	4	R	107	1815	4.50x20	4.50x20
Chevrolet	1½	545	Own	6	3⅛x3⅜	26.3	C S	Car	P	Rem	Own	U	4	Own	Sp	30.05	4	R	131	2375	30x5	30x5
Commerce 29 Y	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	D	142	3900	B 30x5	B 30x5
Commerce S 11 Y	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4300	B 30x5	D B 30x5
Commerce 30 Z	1½	2900	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4700	B 34x5	D B 34x5
Commerce 40 Z	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	B 36x6	D B 36x6
Commerce 50 Z	2½	4415	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	D	175	7000	S 36x5	S 36x10
Commerce 60 Z	3	4480	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	D	175	7100	S 36x5	S 36x12
Commerce 70 Z	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	D	175	8200	S 36x6	S 36x12
Commerce 80 Z	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	D	175	8400	S 36x6	S 36x14
Day Elder M F	1¼	1345	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Rem	Br-L 20A	U	3	Tim 52000 H	Sp	24.2	4	D	131	3500	30x5	30x5
Day Elder G F	1½	2100	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Rem	Br-L 20A	U	3	Tim 54000 H	Sp	28.3	4	D	156	4400	30x5	30x5 D
Day Elder H F	2	2550	Con 16-C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Rem	Br-L 35	U	4	Tim 63702 H	Wo	40.7	4	D	156	4900	S 34x4	S 34x7
Day Elder J F	3	3900	Con 18 R	6	4 x4½	38.4	Pb	Zen	Vac	Rem	Br-L 51	U	4	Tim 65001 H	Wo	41.5	4	D	156	6900	34x7	34x7 D
Day Elder K F	4-5	5000	Con 21 R	6	4⅝x4¾	45.9	Pb	Zen	Vac	Rem	Br-L 60	C	4	Tim 66702 DH	Wo	55.2	4	D	162	9500	S 36x5	S 36x12
Diamond T 151	1	1095	Con 18 E	6	3⅜x4	27.3	Pb	Zen	Gra	Aut	Cov	U	3	Col	Sp	—	4	D	132	3200	30x5	30x5
Diamond T 290	1½	1475	Her W X A	6	3½x4½	29.4	Pb	Zen	Vac	Aut	Cov	U	4	Col	Sp	—	4	D	156¼	4160	30x5	30x5 D
Diamond T 302	2	1650	Her W X B	6	3¾x4½	33.8	Pb	Zen	Vac	Aut	Cov	U	4	Clark	Sp	—	4	D	157¾	4600	32x6	32x6 D
Diamond T 502	2½	2675	Her W X C	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Wo	—	4	D	163	5850	34x7	34x7 D
Diamond T 505	2½	2875	Her W X C	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Wis	D R	—	4	D	171½	5850	34x7	34x7 D
Diamond T 550	2½	2195	Her W X C	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Clark	Sp	—	4	D	165	5400	32x6	32x6 D
Diamond T 602	3	3510	Her Y X C	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	A	4	Tim	Wo	—	4	D	163½	7450	36x8	36x8 D
Diamond T 605	3	3810	Her Y X C	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	U	4	Wis	Dr	—	4	D	161½	7400	36x8	36x8 D
Diamond T 700	3½	4850	Her Y X C	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	A	4	Tim	Wo	—	R	D	162	8100	S 36x5	S 36x10
Diamond T 800	4	5325	Her Y X C	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Br-L	A	7	Own	Wo	—	4	D	195⅜	8300	36x8	4WH 36x8
Diamond T 1000	5	5500	Her Y X C 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	A	4	Tim	Wo	—	R	D	170½	10000	S 36x6	S 40x12
Diamond T 1600	8	7830	Her Y X C 3	6	4⅝x4¾	51.3	Pb	Zen	Vac	Aut	Br-L	A	7	Tim	Wo	—	R	D	190	11700	36x8	4W 36x8 D
Diamond T 2500	10-12	9750	Wak 6 R B	6	5 x5¾	60.0	Pb	Zen	Gra	Aut	Br-L	A	7	Tim	Wo	—	R	D	194	13100	S 36x7	S4W 36x12
Dodge Bros.	½	665	Own	4	3⅝x4¼	21.03	Pb	Stw	Vac	N E	Own	U	3	Own	Sp	15.2	4	D	110	1965	29x5.00 B	29x5.00 B
Dodge Bros.	¾	695	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	Own	U	3	Own	Sp	17.4	4	D	120	2510	31x5.25 B	31x5.25 B
Dodge Bros.	1	995	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	W-G	U	4	Own	Sp	23.8	4	D	130	2920	30x5	30x5
Dodge Bros.	1	1065	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	W-G	U	4	Own	Sp	23.8	4	D	140	2955	30x5	30x5
Dodge Bros.	1½	1345	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	Own	U	4	Own	Sp	36.8	4	D	150	3695	32x6	32x6
Dodge Bros.	1½	1415	Own	6	3⅜x3⅞	27.3	Pb	Stw	Vac	N E	Own	U	4	Own	Sp	36.8	4	D	165	3810	32x6	32x6
Dodge Bros.	2	1445	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	41.4	4	D	114	3725	32x6	34x7
Dodge Bros.	2	1545	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	41.4	4	D	150	3930	32x6	34x7
Dodge Bros.	2	1615	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	41.4	4	D	165	4070	32x6	34x7
Dodge Bros.	3	1745	Own	6	3⅜x4½	27.3	Pb	Zen	Vac	N E	Own	U	4	Own	Sp	46.3	4	D	135	4225	32x6	32x6 D
Dover	¾	595	Own	6	2¾x4½	18.27	P&S	Mar	Vac	Aut	Own	U	3	Own	Sp	—	4	4	110	2150	30x5	31x5.50
Durant Com. Chassis	½	495	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	16.16	4	4	107	1670	28x4.75	28x4.75
Fargo Packet	½	545	Own	6	3 x4⅛	21.6	Pb	Str	Vac	N E	Own	U	3	Own	Sp	14.29	4	Tr	—	1835	5.00x19	5.00x19
Fargo Clipper	¾	725	Own	6	3⅛x4¼	23.4	Pb	Str	Vac	Rem	Own	U	3	Own	Sp	15.53	4	Tr	—	2325	5.50x18	5.50x18
Fargo Freighter	1	795	Own	6	3 x4⅛	21.6	Pb	Str	Vac	N E	Own	U	4	Own	Sp	37.19	4	Tr	133	2785	6.00x20	32x6
Ford A A	1½	520	Own	4	3⅞x4¼	24.0	P&S	Zen	Gra	Own	Own	U	3	Own	Wo	*16.1	4	4	131½	2282	6.00x20	32x6
F. W. D.—H	2	3300	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Cotta	C	4	Own	St	38.1	4	R	121	5300	34x7	34x7
F. W. D.—H 6	2	3425	Wak	6	3½x4½	29.4	Pb	Zen	Vac	Eis	Br-L	U	4	Own	St	35.0	4	R	133	5500	34x7	34x7
F. W. D.—B	3	4200	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	3	Own	St	35.6	4	R	124	6460	36x6 S	36x6 S
F. W. D.—B 5	3	4525	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	5	Own	St	88.6	4	R	132	6800	36x6 S	36x6 S
F. W. D.—U 6	3½	4575	Wak	6	4 x4¾	38.6	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7200	36x6 S	36x6 S
F. W. D.—BTL 4	2	3900	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	84.7	4	R	120	6000	36x8	36x8
F. W. D.—B T	3	4742	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	101.0	4	R	133¾	7700	40x7 S	40x5 S D
F. W. D.—U 4	3	4575	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7000	36x6 S	36x6 S
F. W. D.—X 6	6	6500	Wak	6	4¼x4¾	43.3	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	4	170	9500	36x8	36x8
Garford 20 Y	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	D	142	3900	B 30x5	B 30x5
Garford S 11 Y	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4300	B 30x5	D B 30x5
Garford 30 Z	1½	2990	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4700	B 34x5	D B 34x5
Garford 40 Z	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	B 36x6	D B 36x6
Garford 50 Z	2½	4419	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	D	175	7000	S 36x5	S 36x10
Garford 60 Z	3	4480	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	D	175	7100	S 36x5	S 36x12
Garford 70 Z	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	D	175	8200	S 36x6	S 36x12
Garford 80 Z	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	D	175	8400	S 36x6	S 36x14
Gen. Mot. T 11-1001	*3800	625	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	Rem	Pontiac	U	3	Pontiac	Sp	14.67	4	D	109⅝	1980	5.00x19 B	5.50x19 B
Gen. Mot. T 19-2001	*8000	1015	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	Rem	Mun	U	4	Tim 5261-N	Sp	34.11	4	D	127¾	3075	32x6	34x7
Gen. Mot. T 19-2002	*8000	975	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	Rem	Mun	U	4	Tim 5261-N	Sp	34.11	4	D	127¾	3000	30x5	30x5 D
Gen. Mot. T 19-2003	*6000	895	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	Rem	Mun	U	4	Tim 5261-N	Sp	34.11	4	D	127¾	2925	5.50x20 B	32x6
Gen. Mot. T 25-2501	*8000	1285	Buick	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Mun	U	4	Tim 5261-N	Sp	34.11	4	D	127¾	3575	32x6	34x7
Gen. Mot. T 30-3001	*10000	1530	Buick	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Mun	U	4	Eat 1616	Sp	28.6	4	D	136	4200	32x6	36x8
Gen. Mot. T 30-3002	*10000	1505	Buick	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Mun	U	4	Eat 1616	Sp	28.6	4	D	136	4125	32x6	32x6 D
Gen. Mot. T 30-3003	*8000	1395	Buick	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Mun	U	4	Eat 1616	Sp	28.6	4	D	136	4075	6.00x20 B	34x7
Gen. Mot. T 42-4001	*12000	1885	Buick	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Mun	U	4	Own	Sp	33.38	4	D	136	4690	32x6	38x9
Gen. Mot. T 42-4002	*12000	1790	Buick	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Mun	U	4	Own	Sp	33.38	4	D	136	4640	32x6	32x6 D
Gen. Mot. T 42-4003	*10000	1685	Buick	6	3⅛x4⅝	26.3	Pb	Mar	P	Rem	Mun	U	4	Own	Sp	33.38	4	D	136	4510	7.00x20 B	36x8
Gen. Mot. T 60-5001	*16000	3215	Buick	6	3⅝x5	31.5	Pb	Mar	P	Rem	Mun	U	4	Tim 65706-N	Wo	44.81	4	D	140	6090	38x7	44x10
Gen. Mot. T 60-5002	*18000	3160	Buick	6	3⅝x5	31.5	Pb	Mar	P	Rem	Mun	U	4	Tim 65706-N	Wo	44.81	4	D	140	6425	36x8	36x8 D
Gen. Mot. T 60-5003	*14500	2800	Buick	6	3⅝x5	31.5	Pb	Mar	P	Rem	Mun	U	4	Tim 65706-N	Wo	44.81	4	D	140	6090	36x6	36x6 D
Gen. Mot. T 60 S-6101	*22000	3960	Buick	6	3⅝x5	31.5	Pb	Mar	P	Rem	Mun	U	4	Tim 66704-N	Wo	63.84	4	D	140¾	6920	38x7	38x9 D
Gen. Mot. T 60 S-6102	*19000	3695	Buick	6	3⅝x5	31.5	Pb	Mar	P	Rem	Mun	U	4	Tim 66704-N	Wo	63.84	4	D	140¾	6890	36x8	36x8 D
Gen. Mot K 102-6001	*28000	4250	Own 89	4	4½x6½	32.4	Pw	Zen	Vac	Eis	Mun	C	7	Tim 67600	Wo	86.3	R	R	160	9520	36x6 S	40x14 6
Gen. Mot K 102-6002	*28000	4350	Own 89	4	4½x6½	32.4	Pw	Zen	Vac	Eis	Mun	C	7	Tim 67600	Wo	86.3	R	R	184	9600	36x6 S	40x14 S
Gotfredson RB-26	1¼	1295	Cont	6	3⅜x4	27.3	Pb	Joh	P	Rem	Br-L	U	4	Tim	Sp	—	4	D	Opt.	3400	30x5	30x5
Gotfredson RB-36	1½	1595	Cont	6	3⅜x4	27.3	Pb	Joh	P	Rem	Br-L	U	4	Tim	Sp	—	4	D	Opt.	3900	32x6	32x6
Gotfredson RB-46	2	2100	Her	6	3¾x4½	33.8	Pb	Joh	P	Rem	Br-L	U	4	Tim	Sp	—	4	D	Opt.	5140	32x6	34x7
Gotfredson RW-46	2½	2585	Her	6	3¾x4½	33.8	Pb	Joh	P	Rem	Br-L	U	4	Tim	Wo	—	4	D	Opt.	5600	34x7	34x7
Gotfredson RW-56	3	3395	Her	6	4 x4½	36.4	Pb	Joh	P	Rem	Br-L	U	5	Tim	Wo	—	4	D	Opt.	6600	S 36x5	S 36x5 D

1929 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity—tons	Chassis price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gearset	Location	No. Spds. for.	Rear Axle	Final Drive	Reduction in Low	Brakes, foot	Brakes, hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Gotfredson RW-66A	3½	4475	Her	6	4⅜x4¾	45.9	Pb	Joh	P	Rem	Br-L	U	7	Tim	Wo	—	4	D	Opt.	7800	S 36x5	S 36x6 D
Gotfredson RW-86A	5	5200	Her	6	4⅝x4¾	51.3	Pb	Joh	P	Rem	Br-L	C	7	Tim	Wo	—	4	D	Opt.	9000	S 36x6	S 36x7 D
Gotfredson RW-106A	7½	5675	Her	6	4⅝x4¾	51.3	Pb	Joh	P	Rem	Br-L	C	7	Tim	Wo	—	4	D	Opt.	10000	S 36x7	S 36x8 D
Gotfredson RW-206A	12	10500	Bud	6	4¾x6	54.15	Pb	Joh	P	Rem	Br-L	C	7	Tim	Wo	—	6	D	Opt.	14000	S 36x8	S 36x8 D*
Gramm B	1½	1395	Lyc S	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	32	4	R	140	3300	30x5	30x5 D
Gramm C	2	1795	Lyc T S	6	3⅞x5	36.2	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	29	4	R	160	3800	32x6	32x6 D
Gramm D	2½	1995	Lyc T S	6	3⅞x5	36.2	Pb	Zen	Vac	Aut	Ful	U	4	Wis	D R	30	4	R	160	4920	32x6	32x6 D
Gramm E	3	2795	Lyc T S	6	3⅞x5	36.2	Pb	Zen	Vac	Aut	Ful	U	4	Wis	D R	35	4	R	150	5200	34x7	34x7 D
Gramm EY	3	3535	Con 20 R	6	4⅛x4¾	36.04	Pb	Zen	Vac	Aut	Ful	U	4	Wis	D R	26	4	R	190	6750	32x6	32x6 D
Gramm GY	4	4345	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	L-N	Ful	U	4	Wis	D R	28	4	R	210	7200	34x7	34x7 D
Gramm HY	5	6545	Con 16 H	6	4¾x5¾	54.15	Pb	Zen	P	L-N	Ful	U	4	Wis	D R	25.2	4	R	236	9600	36x8	36x8 D
Gramm T-35	3	3595	Lyc T S	6	3⅞x5	36.2	Pb	Zen	Vac	Aut	Ful	U	4	Wis	D R	39.6	4	R	173	7100	36x5 S	36x10 S
Gramm T-45	4	3995	Lyc T S	6	3⅞x5	36.2	Pb	Zen	Vac	Aut	Ful	U	4	Wis	D R	39.6	4	R	173	7600	36x5 S	36x12 S
Gramm T-60	5	4745	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	Vac	Aut	Ful	U	4	Wis	D R	—	4	R	173	8700	36x6 S	36x14 S
Hahn 7 H	¾-1	1098	——	6	2⅞x4¾	19.84	P	Zen	Vac	Aut	Br-L	U	3	——	Sp	5.8	4	D	124	3100	——	——
Hahn 17 H	1-1½	1430	Cont	6	3⅜x4	—	P	Zen	Vac	—	Br-L	U	4	Tim	—	5.8	4	D	142	3750	——	——
Hahn 37 H-37 H L	2-2½	1925	Cont	6	3⅜x4	—	P	Str	Vac	—	Br-L	U	4	Tim	—	5⅛	4	D	153	4600	——	——
Hahn 39 H-39 H L	2½-3	2898	Cont	6	4 x4½	38.4	P	Str	Vac	—	Br-L	U	4	Tim	—	6⅛	4	D	164	5800	——	——
Hahn 47 H B-47 H B L	3-3½	3700	Cont	6	4 x4½	38.4	P	Str	Vac	—	Br-L	U	4	Tim	—	7.8	4	D	151	6900	——	——
Hahn 47 H D-47 H D L	3½-4	3900	Cont	6	4 x4½	38.4	P	Str	Vac	—	Br-L	U	4	Tim	—	7.8	4	D	151	7500	——	——
Hahn 67 H-67 H L	4-5	4950	Cont	6	4⅜x4¾	45.94	P	Str	Vac	—	Br-L	U	4	Tim	—	10.8	4	D	151	8842	——	——
Indiana 200	1	1195	Wis F	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 36000	Sp	20.71	4	Tr	137	3400	30x5	30x5
Indiana 300	1½	1475	Wis F	6	3¼x5¼	25.3	Pb	Zen	Vac	Aut	Br-L 20	U	3	Col 55001	Sp	21.26	4	Tr	149	3650	32x6	32x6
Indiana 111 X W	2	1850	Her Ox	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L 35	U	4	Wis 4611	Sp	36.60	R	Tr	120	3830	32x6	32x6 D
Indiana 400	2	2495	Wis Y	6	3⅜x5	27.3	Pb	Str	Vac	Aut	Br-L 35	U	4	Cla B 506	Sp	30.33	4	Tr	157	4800	32x6	34x7
Indiana 115 A	2½	2740	Her Ox	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L 35	U	4	Cla B 720	Sp	42.80	R	Tr	132	5000	32x6	34x7 D
Indiana 615 A	2½	3070	Wis Y	6	3⅜x5	27.3	Pb	Str	Vac	Eis	Br-L 35	U	4	Cla B 720	Sp	30.33	R	Tr	136	5190	32x6	34x7 D
Indiana 126	3	3495	Her L	4	4½x5¾	32.4	Pb	Str	Vac	Eis	Br-L 557	C	7	Tim 65704	Wo	80.7	R	Js	162½	7400	36x5	36x10 S
Indiana 127	3	3190	Her K	4	4¼x5¾	28.9	Pb	Str	Vac	Eis	Br-L 51	U	5	Cla B 720	Sp	41.72	R	R	141	6490	32x6	34x7 D
Indiana 626	3	4185	Wis H	6	4 x5	38.4	Pb	Str	Vac	Eis	Br-L 55	C	7	Tim 65704	Wo	80.7	R	Js	168½	7625	36x6 S	36x10 S
Indiana 627	3	3725	Wis H	6	4 x5	38.4	Pb	Str	Vac	Aut	Br-L 55	U	4	Cla B 720	Sp	42.80	R	R	162½	6500	36x5 S	36x10 S
Indiana 127 A W	3	3625	Her K	4	4¼x5¾	28.9	Pb	Str	Vac	Eis	Br-L 51	U	5	Wis 69311	Sp	41.72	R	Tr	141	6800	32x6	34x7 D
Indiana 627 A W	3	3925	Wis H	6	4 x5	38.4	Pb	Str	Vac	Eis	Br-L 51	U	5	Wis 69311	Sp	41.72	R	Tr	147	6800	32x6	34x7 D
Indiana 138	4	4380	Her L	4	4½x5¾	32.4	Pb	Str	Vac	Eis	Br-L 60	C	7	Tim 66700 D	Wo	83.1	R	R	162½	7850	36x5	36x12 S
Indiana 638	4	4955	Wis H	6	4 x5	38.4	Pb	Str	Vac	Eis	Br-L 60	C	7	Tim 66700 D	Wo	83.1	R	R	168½	8100	36x5	36x12 S
Indiana 41	5	5460	Her G	4	4⅝x5¾	36.1	Pb	Str	Vac	Eis	Br-L 60	C	7	Tim 68700 D	Wo	95.0	R	R	172	9600	36x6	40x12 S
Int. Harvester Sp. Del.	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	Rem	Mec	U	3	Eat 502 R	Sp	15.1	4	4	124	2200	30x5.25	30x5.25
Int. Harv. 6 Spd. Spec.	1	820	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	Rem	Mec	U	3	Eat 1124	Sp	*52.6	4	4	124	2430	30x5	30x5
Int. Harvester S-24	1¼	1160	Lyc C T	4	3⅜x5	22.5	Pw	Zen	Vac	Rem	Own	U	3	Eat 1002	Sp	21.3	4	4	130	3200	30x5	30x5
Int. Harvester S-26	1¾	1310	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	Rem	Own	U	3	Eat 1002	Sp	21.3	4	4	130	3250	30x5	30x5
Int. Harvester SF-34	1½	1450	Lyc C T	4	3⅜x5	22.5	Pw	Zen	Vac	Rem	Own	U	3	Eat 1502	Sp	22.6	4	4	140	3520	30x5	32x6
Int. Harvester SF-36	1½	1600	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	Rem	Own	U	3	Eat 1502	Sp	22.6	4	4	140	3570	30x5	32x6
Int. Harvester SD-44	2	1590	Lyc C T	4	3⅜x5	22.5	Pw	Zen	Vac	A B	Own	U	4	Eat 2002	Sp	40.6	4	4	117	3700	30x5	32x6
Int. Harvester SD-46	2	1740	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	A B	Own	U	4	Eat 2002	Sp	40.6	4	4	117	3750	30x5	32x6
Int. Harvester SF-46	2	1950	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	Rem	Own	U	4	Eat 2002	Sp	40.6	4	4	140	4000	32x6	32x6 D
Int. rvester 54-C	2½	3200	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Own A M 428	Ch	51.8	R	D	140	6400	36x5	36x10
Int. Harvester 54	2½	3550	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Eat 54 65000	D R	53.7	R	D	140	6345	36x5	36x8
Int. Harvester 74-C	3½	4550	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Own A M 427	Ch	*86.0	R	D	154	8715	36x6	40x12
Int. Harvester 74	3½	4550	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Eat 74 1000	D R	61.6	R	D	160	8175	36x6	40x12
Int. Harvester 104-C	5	4800	Own	4	4¼x5	28.9	C S	Zen	Gra	R B	Own	U	4	Own A M 427	Ch	86.0	R	D	154	8890	36x6	40x14
Int. Harvester HS-54	2½	3850	H-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	R B	Own	U	5	Eat 54 65000	D R	60.5	4	4	*148	8000	36x5	36x12 S
Int. Harvester HS-54-C	2½	3850	H-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	R B	Own	U	5	Own A M 428	Ch	63.8	4	4	*148	8665	34x5 S	36x12 S
Int. Harvester HS-74	3½	4850	H-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	R B	Own	U	5	Eat 74 1000	D R	70.5	4	4	*160	10700	34x5 S	36x7 D
Int. Harvester HS-74-C	3½	4850	H-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	R B	Own	U	5	Own A M 427	Ch	79.1	4	4	*160	11000	34x6 S	36x7 D
Int. Harv's'r NS-104-C	5	5500	H-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	R B	Own	U	5	Own A M 427	Ch	90.5	4	4	*160	11095	34x6	36x8 D
*Larrabee 20	1	1595	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Gra	Rem	Br-L	U	3	Col	Sp	4.15	4	D	142	4170	30x5	30x5
*Larrabee 30	1½	1875	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Gra	Rem	Br-L	U	3	Col	Sp	4.15	4	D	161	4550	32x6	32x6
*Larrabee 40	2	2965	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	Gra	Rem	Br-L	U	4	Wis	D R	5.35	4	D	176	5950	32x6	32x6 D
*Larrabee 50	2½	3285	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	Gra	Rem	Br-L	U	4	Wis	D R	5.35	4	D	183	6030	32x6	32x6 D
*Larrabee 60	3	3980	Con 18 R	6	4 x4½	38.4	Pb	Zen	Gra	Rem	Br-L	U	4	Tim	Wo	5.35	4	D	195	7140	34x7	34x7 D
*Larrabee 70	3½	4600	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	Gra	Rem	Br-L	C	7	Tim	Wo	9.5	4	D	205	7740	34x7	34x7 D
Larrabee 80	5	5200	Con 21 R	6	4⅜x4¾	—	Pb	Zen	Gra	Rem	Br-L	C	7	Tim	Wo	—	4	D	205	9150	36x8	36x8 D
Mack BB	1½	3500	Own	4	4¼x5	28.9	P&S	Str	Vac	N E	Own	U	4	Own	Hyp	Opt	4	D	165½	——	32x6	32x6 D
Mack BB	1½	3600	Own	4	4¼x5	28.9	P&S	Str	Vac	N E	Own	U	4	Own	Hyp	Opt	4	D	177½	——	32x6	32x6 D
Mack AB	1½-2	3100	Own	4	4¼x5	28.9	P&S	Str	Gra	R B	Own	U	4	Own	Ch	Opt	R	D	2-Opt	——	36x4 S	36x7 S
Mack AB	1½-2	3550	Own	4	4¼x5	28.9	P&S	Str	Gra	R B	Own	U	4	Own	D R	Opt	R	D	2-Opt	——	36x4 S	36x7 S
Mack AB	2½-3	3500	Own	4	4¼x5	28.9	P&S	Str	Gra	R B	Own	U	4	Own	Ch	Opt	R	D	2-Opt	——	36x4 S	36x8 S
Mack AB	2½-3	3950	Own	4	4¼x5	28.9	P&S	Str	Gra	R B	Own	U	4	Own	D R	Opt	R	D	2-Opt	——	36x4 S	36x8 S
Mack BJ	3-4	5800	Own	6	4½x5½	48.6	P&S	Str	Vac	N E	Own	C	4	Own	D R	Opt	4	D	3-Opt	——	36x8	36x8 D
Mack AK	3½-5	5150	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	4	Js	3-Opt	——	36x5 S	36x5 D S
Mack AK	3½-5	5250	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	C	4	Own	D R	Opt	4	D	3-Opt	——	36x5 S	36x5 D S
Mack AC	3½-5	4950	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	Js	R	3-Opt	——	36x5 S	40x10 S
Mack AC	5½-7	5500	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	Js	R	3-Opt	——	36x6 S	40x12 S
Mack AC	7½	6000	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	Js	R	3-Opt	——	36x7 S	40x14 S
Mack AP	7½	9500	Own	6	5 x6	60.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	R	Js	191	——	36x7 S	40x8 D S
Mack AB Tractor	5-6	3500	Own	4	4½x5	28.9	P&S	Str	Gra	R B	Own	U	4	Own	Ch	Opt	R	D	122½	——	36x4 S	36x4 D S
Mack AK Tractor	7-10	5150	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	4	Js	128	——	34x5 S	36x5 D S
Mack AC Tractor	7-10	4950	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	Js	R	128	——	34x5 S	36x5 D S
Mack AC Tractor	11-14	5500	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	Js	R	128	——	34x6 S	36x6 D S
Mack AC Tractor	15	6000	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	Js	R	128	——	34x7 S	36x7 D S
Mack AP Tractor	15	9500	Own	6	5 x6	60.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	R	Js	147	——	34x7 S	36x7 D S
Mack AC 6-wheel	10	7500	Own	4	5 x6	40.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	4 R	Js	2-Opt	——	36x7 S	40x12 S
Mack AP 6-wheel	10	12000	Own	6	5 x6	60.0	P&S	Str	Gra	R B	Own	J	4	Own	Ch	Opt	4 R	Js	2-Opt	——	36x7	40x12 S
Moreland A-6	*6800	1275	Con 34 L	6	2⅞x4¾	19.84	Pr	Zen	Vac	Aut	Br-L 20	U	4	Tim 52000 H	Sp	24.17	4	D	134	3000	32x6.75	32x6.75
Moreland R R-6	*9300	1850	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	P	Aut	Br-L 35	U	4	Tim 54000 H	Sp	32.95	4	D	158½	4000	32x6	32x6
Moreland B-6	*12000	2200	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	P	Aut	Br-L 35	U	4	Tim 63721 H	Wo	34.8	4	D	153½	4500	34x7	34x7
Moreland E-6	*15000	3600	Her W X C	6	4 x4½	38.4	Pb	Zen	P	Aut	Br-L 51	U	4	Tim 65000 H	Wo	34.8	*4	D	182	6000	34x7	34x7 D
Moreland Ex. 6	*19000	3750	Her W X C	6	4 x4½	38.4	Pb	Zen	P	Aut	Br-L 51	U	4	Tim 65704 N	Wo	46.0	*4	D	182	6500	36x4 S	36x8 S
Moreland H-6	*22000	4650	Her Y X C	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Br-L 55	C	7	Tim 66702 W	Wo	82.3	*R	D	196	8000	36x5 S	36x10 S
*Moreland B D W-6	*15000	3200	Her W X B	6	3¾x4	33.7	Pb	Zen	P	Aut	Br-L 35	U	4	Own	Wo	41	4	D	160	5800	34x7	34x7
*Moreland E D-6	*23000	4900	Her W X C	6	4 x4½	38.4	Pb	Zen	P	Aut	Br-L 51	U	5	Own	Wo	52.2	*4	D	196	8500	36x8	36x8
*Moreland H D S-6	*30000	5850	Her Y X C	6	4⅝x4¾	45.9	Pb	Zen	P	Aut	Br-L 60	C	7	Own	Wo	81.6	*4	D	220	10500	36x6 S	36x8
*Moreland S D-6	*34000	6450	Her Y X C 2	6	4½x4¾	48.6	Pb	Zen	P	Aut	Br-L 60	C	7	Own	Wo	89.0	*4	D	221	11500	36x7 S	36x10 S
*Moreland T D-6	*34000	8000	Con 15 H	6	4½x5¾	48.6	Pw	Str	P	Aut	Br-L 70	C	7	Own	Wo	98.5	*4	D	221	12500	36x7 S	36x10 S
*Fleet Arrow F A-1	1½-2	2450	Own F A	6	3½x5	29.5	Pb	Str	A P	Rem	Own	U	3	Own	Sp	33.3	4	Tr	140	3950	32x6.00	34x7
*Pierce-Arrow F A-1	1½-2	2450	Own	6	3½x5	29.4	Pw	Str	P F	Del	Own	U	3	Tim	St	21.4	4	Tr	140	4100	32x6	32x6 D
*Pierce-Arrow X A-1	2	3500	Own	4	4 x5½	25.6	Pw	Str	Pre	Del	Own	C	4	Own	Wo	44.2	D	R	150	6750	36x4	36x5 D S
*Pierce-Arrow X B-1	3	3750	Own	4	4 x5½	25.6	Pw	Str	Pre	Del	Own	C	4	Own	Wo	48.1	D	R	150	6830	36x5	36x5 D S
*Pierce-Arrow H B-1	5	4500	Own	4	4 x5½	25.6	Pw	Str	Pre	Del	Own	C	7	Own	Wo	95.0	D	R	156	8400	36x5	36x6 D S
*†Pierce-Arrow W C-1	4	5100	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	41.5	D	R	162	8780	36x5	36x6 D S
*†Pierce-Arrow R D-1	5	5400	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	40.5	D	R	162	9440	36x6	36x7 D S
*†Pierce-Arrow R F-1	7½	5600	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	51.9	D	R	168	10320	36x6	40x8 D S
†Pierce-Arrow R F-T	7½	5600	Own	4	4½x6¾	32.4	Pw	Str	Pre	Del	Own	C	4	Own	Wo	51.9	D	R	132	940	36x6	36x8 D S
Relay 20 B	1	1700	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	25.7	4	D	142	4100	B 30x5	B 30x5
Relay S 11 B	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	30.0	4	D	162	4500	B 30x5	D B 30x5
Relay 30 A	1½	2990	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	34.5	4	D	168	5300	B 34x5	D B 34x5
Relay 40 A	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Own	Relay	34.5	4	D	168	5500	B 36x6	D B 36x6
Relay 50 C	2½	4415	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Own	Relay	58.5	4	D	175	7300	B 36x6	S 36x10
Relay 60 C	3	4480	Bud B U S	6	4 x5⅛	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Own	Relay	58.5	4	D	175	7450	B 36x6	S 36x12
Relay 70 C	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Cov	C	8	Own	Relay	84.2	R	D	175	8600	B 36x6	S 40x12
Relay 80 C	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pw	Zen	Vac	Aut	Cov	C	8	Own	Relay	84.2	R	D	175	8800	B 36x6	S 40x14

Major Specifications and Mechanical Details of 1929 Commercial Cars Built in the United States

Make and Model	Capacity—tons	Chassis price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gearset	Location	No. Spds. for.	Rear Axle	Final Drive	Reduction in Low	Brakes, foot	Brakes, hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Reo B A	½	$895	Con 16 E	6	3⅜x4	27.3	Pb	Sch	Vac	Rem	W-G	U	3	Sal	Sp	14.63	4	Tr	115	2290	28x5.25	28x5.25
Reo D A	1	995	Con 16 E	6	3⅜x4	27.3	Pb	Sch	Vac	Rem	W-G	U	3	Own	Sp	18.4	4	Tr	123	2755	30x5	30x5
Reo D C	1	1075	Con 16 E	6	3⅜x4	27.3	Pb	Sch	Vac	Rem	W-G	U	3	Own	Sp	18.4	4	Tr	138	2850	30x5	30x5
Reo F A	1½	1295	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	22.96	4	Tr	137	3525	32x6	32x6
Reo F E	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	22.96	4	Tr	152	3700	32x6	32x6
Reo F F	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	22.96	4	Tr	156	3750	32x6	32x6
Reo F H	2	1545	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	37.6	4	Tr	142	4165	32x6	32x6 D
Reo F C	2	1595	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	37.62	4	Tr	152	4025	32x6	32x6 D
Reo F D	2	1695	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	37.62	4	Tr	168	4075	32x6	32x6 D
Reo G A	3	2035	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	41.05	4	Tr	163	4625	32x6	32x6 D
Reo G C	3	2140	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	41.05	4	Tr	179	4850	32x6	32x6 D
Reo G D	3	1985	Own	6	3⅜x5	27.3	Pb	Sch	Vac	Rem	Own	U	4	Own	Sp	46.2	4	Tr	134	4570	32x6	32x6 D
Republic Fleetmaster	*7000	1295	Lyc	6	3¼x4½	—	Pb	Zen	Vac	Aut	Br-L	U	4	Cla	Sp	28.3	4	Tr	144	3300	6.00x20 B	32x6
Republic F-1	*12000	2195	Lyc	6	3¼x4½	—	Pb	Zen	Vac	Aut	Ful	U	4	Eat	Sp	43.0	4	D	155	4850	32x6	32x6 D
Republic H-1	*15000	2985	Lyc	6	3⅞x5	—	Pb	Zen	Vac	Aut	Ful	U	4	Eat	Sp	36.0	4	D	163	5750	34x7	34x7 D
Republic L-1	*18000	3595	Lyc	6	3⅞x5	—	Pb	Zen	Vac	Aut	Ful	U	4	Eat	D R	48.0	4	D	180	6900	36x8	36x8 D
Republic M-1	*20000	3300	Waukesha	6	4 x4¾	—	Pb	Zen	Vac	Aut	Br-L	U	5	Eat	D R	53.0	D	R	171	6900	36x8	36x8 D
Rugby Model 401	1	*775	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	14.79	4	4	107	2325f	28x4.75	28x4.75
Service 20 Y	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Col	Sp	25.5	4	D	142	3900	B 30x5	B 30x5
Service S 11 Y	1½	1990	Bud H S 6	6	3⅜x4½	27.3	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	29.2	4	D	162	4300	B 30x5	D B 30x5
Service 40 Z	2	3240	Bud D S 6	6	3⅝x5	31.2	Pw	Zen	Vac	Aut	Br-L	U	4	Tim	Wo	34.8	4	D	168	4900	B 36x6	D B 36x6
Service 60 Z	3	4480	Bud B U S	6	4 x5¼	38.4	Pw	Zen	Vac	Aut	Br-L	U	5	Tim	Wo	63.0	4	D	175	7100	S 36x5	S 36x12
Service 80 Z	4	5330	Bud B A 6	6	4¼x5¼	40.8	Pw	Zen	Vac	Aut	Br-L	C	7	Tim	Wo	98.2	R	D	175	8400	S 36x6	S 36x14
Standard 2½ K	2½-3½	3200	Con K 4	4	4¼x5¼	27.2	Pb	Str	Vac	Aut	Br-L 35	C	4	Tim 65600	Sp Wo	34.8	R	D	147	5400	36x5 S	36x8 S
Standard 3½ K	3½-5	4350	Con L 4	4	4½x5½	32.4	Pb	Str	Vac	Aut	Br-L 55	C	7	Tim 66700	Sp Wo	83.0	R	D	160	7485	36x5 S	36x12 S
Standard 5 K	5-7	5250	Con B 5	4	4¾x6	36.1	Pb	Str	Vac	Aut	Br-L 60	C	7	Tim 68700	Sp Wo	83.6	R	D	164	8700	36x6 S	40x14 S
*Stewart Buddy 21	¾	895	Lyc W S G	6	2⅞x4⅜	19.8	Pb	Str	Gra	Rem	W-G	U	3	Sal	Sp	30.0	4	D	118	2694	30x5.50	30x5.50
*Stewart Buddy 21 X	1	995	Lyc W S G	6	2⅞x4⅜	19.8	Pb	Str	Vac	Rem	W-G	U	3	Sal	Sp	30.0	4	D	128	2806	30x5	30x5
*Stewart 16	1¼	1295	Lyc C T	4	3¼x5	22.5	Pb	Str	Vac	Rem	Ful	U	4	Cla	Sp	24.0	4	D	130	3326	32x6	32x6
*Stewart 16 X	1¼	1295	Lyc 4 S L	6	3¼x4½	25.3	Pb	Str	Vac	Rem	Ful	U	4	Cla	Sp	24.0	4	D	130	3326	32x6	32x6
Stewart 26 X W	2	2290	Lyc T	6	3⅝x5	31.5	Pw	Str	Vac	Rem	Ful	U	4	Tim	Wo	29.0	4	D	165	5095	32x6	32x6 D
*Stewart 18 X	2½	2690	Lyc T	6	3⅝x5	31.5	Pw	Str	Vac	Rem	Ful	U	4	Tim	Wo	29.0	4	D	165	5788	32x6	32x6 D
Stewart 19 X	3½	3690	Lyc F	6	3⅞x5	36.2	Pw	Str	Vac	Rem	Ful	C	12	Tim	Wo	105.1	4	D	165	6990	36x5	36x10
*Stewart 22 X	4	4200	Lyc F	6	3⅞x5	36.2	Pw	Str	Vac	Rem	Ful	U	12	Tim	Wo	34.8	4	D	165	7990	36x5	36x12
Stewart 28 X	1½	1495	Lyc 4 S L	6	3¼x4½	25.3	Pb	Str	Vac	Rem	Ful	U	4	Cla	Sp	27.3	4	D	136	3840	30x5	30x5 D
Stewart 29 X	2	1695	Lyc 4 S L	6	3¼x4½	25.3	Pb	Str	Vac	Rem	Ful	U	4	Cla	Sp	27.3	4	D	145	4188	32x6	32x6 D
Stewart 27 X	5-7	5700	Waukesha	6	4⅜x5¼	45.99	Pw	Str	Vac	Rem	Ful	U	8	Tim	Wo	93.81	4	D	165	9700	36x7	40x7 D
Studebaker GN-P	¾	845	Own	6	3⅜x4¼	27.3	P C	Str	P	Rem	Own	U	3	Own	Sp	14.3	4	4	115	——	19x6.00	19x6.00
Studebaker GN-S	1	1045	Own	6	3⅜x4¼	27.3	P C	Str	P	Rem	Own	U	3	Own	Sp	13.8	4	Js	130	——	20x6.00	30x5
Studebaker GK-N	1	1095	Own	6	3⅜x4⅜	27.3	P C	Str	P	Rem	Own	U	3	Own	Sp	13.7	4	Js	146	2830	30x5	30x5
Studebaker GN-N	1¼	1245	Own	6	3⅜x4¼	27.3	P C	Str	P	Rem	Clark	U	4	Clark	Sp	33.5	4	Js	146	——	30x5	32x6
Studebaker 77	2½	2765	Own	8	3½x4⅜	39.2	P C	Str	P	Rem	Ful	U	3	Eat	Sp	19.8	4	Js	158	4745	20x6.75 B	20x6.75 B
Studebaker 88	3	3165	Own	8	3½x4⅜	39.2	P C	Str	P	Rem	Ful	U	3	Eat	Sp	19.8	4	Js	184	4920	20x7.50 B	20x7.50
Studebaker 99	3½	3665	Own	8	3½x4⅜	39.2	P C	Str	P	Rem	Ful	U	4	Eat	Dr	24.6	4	Js	184	5400	20x7.50 B	20x7.50
Victor 35	1½	1895	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Rem	Cov	U	3	Tim	Sp	—	4	D	144	3200	30x5	30x5 D
Victor 45	2½	2495	Her	6	3⅞x4½	33.7	Pb	Zen	Vac	Rem	Ful	U	4	Wis	D R	—	4	D	148	4500	32x6	32x6 D
Victor 75	3½	3895	Her	6	4 x4½	38.4	Pb	Zen	Vac	Rem	Ful	U	4	Wis	D R	—	4	D	162	6000	34x7	34x7 D
Whippet 96 A	½	380	Own 96 A	4	3¼x4¾	15.6	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.75	4	R	103¼	1659	28x4.75	28x4.75
Whippet 6 C-101	1½	645	Own 98 A	6	3¼x3¾	23.4	Pb	Til	Vac	Aut	Ful	U	4	Cla-B 364	Sp	33.5	4	R	131	2540	30x5	30x5
†White 15 B	1	1545	Own G K A	4	3⅜x5⅛	22.5	C S	Zen	Vac	L-N	Own	C	4	Own	Sp	18.6	R	R	133½	3242	30x5	30x5
†White 57	1¼	2725	Own G R C	4	4 x5¾	25.6	Pw	Zen	Vac	L-N	Own	U	4	Own	Sp	19.3	R	R	146	3755	32x6	32x6
†White 20 A	1½	2125	Own G K A	4	3⅜x5⅛	22.5	C S	Zen	Vac	L-N	Own	C	4	Own	D R	32.1	R	R	145½	4412	34x5	34x5 D P
†White 56	2	3125	Own G R C	4	4 x5¾	25.6	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	26.2	R	D	165	5096	36x4 S	36x7 S
†White 51 A	2½	3750	Own G R B	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	35.5	R	D	170	6256	36x5 S	36x8 S
†White 55	3½	4650	Own G R B	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	I G	66.1	D	R	174	8402	36x5 S	40x5 S D
†White 52 T	3½	4700	Own G R B	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	I G	76.5	D	R	129½	8126	36x5 S	40x5 S D
†White 52	5	5100	Own G R B	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	5	Own	I G	92.3	D	R	174	9184	36x6 S	40x12 S
†White 58	3	4400	Own G R B	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	I G	49.5	D	A	180	7400	36x5 S	36x5 S D
†White 60	1	1850	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	Rem	Own	U	3	Own	Sp	17.9	4	D	138	3562	30x5	30x5
†White 61	1½	2450	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	Rem	Own	U	4	Own	Sp	23.4	4	D	148	4612	30x5	30x5 D
Willys-Knight 15	1½	1545	Own K G T	6	2⅞x4⅜	20.7	Pb	Til	Vac	Aut	Ful D U	U	3	Eat 1002	Sp	24.3	4	R	134	3300	30x5	32x6
Willys-Knight 16	1½	1595	Own K G T	6	2⅞x4⅜	20.7	Pb	Til	Vac	Aut	Ful D U	U	3	Eat 1002	Sp	24.3	4	R	151	3400	30x5	32x6
Willys-Knight 20	2	1945	Own K G T	6	3⅛x4⅜	27.3	Pw	Til	Vac	Aut	Ful D U	U	3	Eat 1504	Sp	28.4	4	R	150	3800	32x6	34x7
Willys-Knight 21	2	1995	Own K G T	6	3⅛x4⅜	27.3	Pw	Til	Vac	Aut	Ful D U	U	3	Eat 1504	Sp	28.4	4	R	164	3900	32x6	34x7
Willys-Knight 25	2½	2545	Own K G T	6	3⅛x4⅜	27.3	Pw	Til	Vac	Aut	Ful G U	U	4	Wis 6617 B	D R	30.3	4	R	150	4920	32x6	32x6 D
Willys-Knight 26	2½	2595	Own K G T	6	3⅛x4⅜	27.3	Pw	Til	Vac	Aut	Ful G U	U	4	Wis 6617 B	D R	30.3	4	R	164	5020	32x6	32x6 D

GENERAL NOTATIONS

*†REFERENCE MARKS apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight.

TIRE EQUIPMENT where not otherwise indicated is solid.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Kgt, Knight; Lyc, Lycoming; Wak, Waukesha; Wis, Wisconsin.

LUBRICATION—Pb, pressure lubrication to main and connecting rod bearings; Pw, full pressure lubrication to all bearings, including wrist-pins; P&S, pressure with splash, CS, circulating splash; Sp, Splash.

CARBURETOR—Car, Carter; Hol, Holley; Joh, Johnson; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; Stw, Detroit lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, Gravity; Pre, Pressure; Vac, Vacuum tank; P, Fuel pump; Auto-P, Auto pulse; E, Electric pump.

IGNITION—AB, American-Bosch; Aut, Electric Auto-Lite; Apo, Apollo; Del, Dayton Engine Laboratory; Eis, Eisemann; L-N, Leece-Neville; N-E, North East; RB, Robert Bosch; Rem, Delco-Remy; Spl, Splitdorf.

TRANSMISSION—Br, L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear.

LOCATION—C, Center, Amid; U, in unit with engine; J, Jack shaft.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Sal, Salisbury; Tim, Timken, Wis, Wisconsin.

FINAL DRIVE—St, Straight bevel; Sp, Spiral bevel; Wo, Worm; DR, Double Reduction; Ch, Chain; IG, Internal Gear.

BRAKES—Js, Jack shaft; R, Rear wheels; D, Drive shaft; 4, four-wheel; Tr, Transmission; W, Westinghouse air brake.

TIRES—B, Balloon; D, Dual; S, Solid.

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear, weight 6,400. Price $3,900.

AUTOCAR

†Engines in these models are located under the driver's seat.

DURANT LINE

*Price includes panel body.

GENERAL MOTORS TRUCK LINE

*Capacity given in all cases is maximum allowable total gross weight (straight rating), and includes chassis, cab, equipment, body and load.

Model T-19 is also available in three other types, with 145¾-inch wheel base having same straight ratings and standard tire combinations as listed for the 127¾-inch wheel base types shown in the table.

Model T-25 is also available in three other types, with 140-inch wheelbase having same straight rating and standard tire combinations and in two other types on the 127¾-inch wheelbase.

Model T-30 is also available in six other types, with 152 and 164 inch wheel bases, respectively, having same straight ratings and standard tire combinations as listed for the 136-inch wheel base types shown in the table.

Model T-42 is also available in nine other types, with 152, 164 and 175 inch wheel bases respectively, having same straight ratings and standard tire combinations as listed for the 136-inch wheel base types shown in the table.

Model T-60 is also available in nine other types, with 160, 180 and 200 inch wheel bases, respectively, having same straight ratings, and standard tire combinations as listed for the 140-inch wheel base types shown in the table.

Model T-60 Special is also available in six other types with 160¾, 180¾ and 200¾ inch wheel bases, respectively, having same straight ratings and standard tire combinations as listed for the 140¾-inch wheel base types shown in the table.

Optional rear axle gear ratios are available for all types and optional tire equipment is available for all types except Model T-11-1001.

FLEET-ARROW LINE

*Model F. A. 1 is also available as Model F. A. 2, at $2,500 on wheel base of 160 inches, weight 3,975 lbs., and as Model F. A. 3, at $2,550, with seven speed transmission on 180-inch wheel base, weight, 3,985 lbs.

GOTFREDSON LINE

*Six-wheeler.

GRAMM

*Models B, C, D and E are furnished in three wheel base lengths—others on request.

*Model T Series—Larger engines, pneumatic tires and special wheel bases, and 8 speed transmissions—optional at extra cost.

Model "GY"—190 and 210 in. wheel bases.
Model "HY"—210 and 236 in. wheel bases.

*Model "HY"—210 and 236 in. wheel bases. Tire sizes and electrical equipment optional, depending upon type of service—Coach or Van.

*Above models are all built in tractor wheel base lengths for semi-trailer use.

HAHN LINE

*Model 23 also available as Model 26, priced $1,495, on 144-inch wheel base, with Buda H. S. engine, 6-cyl. 3⅜x4½ inches rated 27.3 h.p., weight 3,200 lbs.

*Model 34 also available as Model 36, with Buda H. S. 6 engine (described above), weight 3,850 lbs.

*Model 44 also available as Model 46, priced $2,410, on 156-inch wheel base, with Buda H. S. 6 engine, as in Model 26, weight 4,200 pounds.

†Model 56 also available on 171-inch wheel base.

INTERNATIONAL HARVESTER LINE

*Model HS-54 also available in the following wheel bases, 130-inch tractor, 170, 185 and 200-inch.

*Model HS-54-C also available in the following wheel bases, 130-inch tractor, 170, 185 and 200-inch.

†Frame is reinforced with inserted channels in each side rail, extending from dash to rear end.

*Model HS-74 also available in the following wheel bases, 144-inch tractor, 185, 210 and 235-inch.

*Models HS-74-C and HS-104-C also available in the following wheel bases, 146-inch tractor, 185, 210 and 235-inch.

All Model H5 heavy-duty International truck models are equipped with built-in vibration dampered clutches.

LARRABEE

*Note—Bevel gear, worm or double reduction drive rear axle available in models 40 and 50. Bevel or double reduction axles available in 30. Worm axles in 60, 70 and 80. Three or more wheel bases in each model. All Larrabee models have hydraulic brakes; 40 up have vacuum booster.

MACK LINE

Other wheel bases furnished on all truck models.

On 6-wheel jobs, 4 rear wheels driven by chains, foot brake on 4 rear wheels.

Hyp.—Hypoid drive, single reduction.

MORELAND LINE

*Indicates six-wheel type vehicles.

PIERCE-ARROW LINE

*Model FA1 also available as Model FA2, at $2,550 on 160-inch wheel base, weight 4,150 lbs., and also as Model FA3, at $2,250 on 180-inch wheel base, weight 4,200 lbs.

*Model XA1 also available as Model XA2, at $3,550 on 162-inch wheel base, weight 6,800 lbs.

*Model XB1 is also available as Model XB2, at $3,800 on 180-inch wheel base, weight 6,900 lbs.

*Model HB1 is also available as Model HB2, at $4,550 on 180-inch wheel base, weight 8,500 lbs., and also as Model HB3, at $4,600 on 198-inch wheel base, weight 8,700 lbs.

*Model WC1 is also available as Model WC2, at $5,150 on 180-inch wheel base, weight 8,950 lbs., and also as Model WC3, at $5,250 on 198-inch wheel base weight 9,050 lbs.

*Model RD1 is also available as Model RD2, at $5,450 on 180-inch wheel base, weight 9,650 lbs., and also as Model RD3, at $5,500 on 198-inch wheel base, weight 9,750 lbs.

*Model RF1 is also available as Model RF2, at $5,650 on 204-inch wheel base, weight 10,500 lbs.

†Seven-speed transmission also available.

REPUBLIC LINE

*Model 75-4 also available as Model 75-6, priced $1,495, on 128-inch wheel base, with Lycoming 4SL engine, 6-cyl. 3¼ by 4½ inches, rated 25.3 h.p., weight 3,150 lbs.

*Model 76-4, also available as Model 76-6, priced $1,675, on 150-inch wheel base, with Lycoming 4SL engine, as in Model 75-6, weight 3,500 lbs.

†Model 60-61, also available with four-wheel brakes, $3,155.

**Model 62, same as 60-61, on 171-inch wheel base, $3,040.

†Model 25W-25WRB available with four-wheel brakes

**Model 66, same as 65, on 200-inch wheel base, $3,750.

**Model 25W, 25WB and 25WBR also available in 3½-ton capacities as Models S25W, S25WB and S25WRB on wheel bases of 165, 156 and 124 inches, priced $3,695.

**Models 35 and 35B also available in 5-ton capacities on wheel bases of 170 and 157 inches, priced $5,145.

**Model 85 also available as Model 86 on 170-inch wheel base, price $2,150.

**Model 50-51 also available as Model 52 on 170-inch wheel base.

REO LINE

*Tonner in wheel base, 123, 138; 1½-ton in wheel base, 137, 156, 152; 2-ton in wheel base, 152, 168; 3-ton in wheel base, 163, 179, 184.

RUGBY

F—Chassis weight includes body.

STEWART LINE

*Buddy 1-ton can be supplied in 131-inch wheel base.

*Models 16 and 16X can be supplied in 145-inch and 160-inch wheel base.

Model 28X can be supplied in 146, 160 and 176-inch wheel base.

Model 29X can be supplied in 160 and 176-inch wheel base.

*Model 26XW can be supplied in 148, 176 and 190 inch wheel base.

*Model 18X can be supplied in 148, 190 and 220 inch wheel base.

*Models 19X and 22X can be supplied in 148, 172, 196, 220 and 235 inch wheel base.

WHITE LINE

*Bus Model 52 is equipped with Booster Brakes and 50B and 54 with air brakes. Model 58 with air brakes as optional equipment.

Model 60 gross weight capacity, with 32x6 tires, 8,000 lbs; 34x7.50 balloon tires optional at extra cost.

†Supplied in optional wheel bases.

FORD LINE

*Low speed axle 22.6 to 1.

Range of Automotive Stocks: Financial News

WEDNESDAY, DECEMBER 18

NEW YORK STOCK EXCHANGE

Previous 1929 High	Low	Div.		Sales	High	Low	Close	Net Change
104⅞	7	....	Advance Rumely ...	4,800	16	12¼	14⅝	+ 2⅛
119	15	....	do pf. ...	6,600	26⅞	22	24	+ 1½
223⅜	77	3	Air Reduction ...	5,900	125½	121	122⅛	+ 1⅜
11¼	1⅞	....	Ajax Rubber ...	900	2	1⅞	1⅞	....
75½	35⅛	3	Allis Chalmers ...	1,300	52⅞	52	52	— ¼
76½	27	....	Am. Bosch Magneto	2,000	44½	42½	42½	— 1½
95⅛	70¼	7	Amer. Chain pf.		No sales today			
8⅞	2½	....	Am.-La France	100	2⅝	2⅝	2⅝	....
514	120	4	Auburn ...	500	202¼	201½	202¼	— 5¼
104⅜	25	2	Bendix Aviation ...	3,700	35⅜	34¼	35	— 1
136¾	37	3	Bohn Aluminum ...	700	55½	54⅜	55¼	— ¾
86⅞	26	4	Borg-Warner ...	1,500	35	34¼	35	— 1
63⅛	8½	....	Briggs Mfg. Co.	5,800	17	16½	16⅞	....
43½	20	2	Briggs & Stratton ..	200	22⅞	22¾	22¾	....
73⅞	14	3	Brockway Motor ..	100	20½	20½	20½	— ½
22⅞	9	1.25	E. G. Budd Mfg. ..	100	10¼	10¼	10¼	....
12½	9½	1	Budd Wheel ...	400	10¼	10	10¼	+ ⅛
54¾	25	1.60	Bullard ...	100	30¾	30¾	30¾	+ ⅛
61	56	3	Caterpillar Tractor.	100	57	57	57	+ ½
47½	21⅞	....	Chicago Pneu. Tool.	100	24⅜	24	24	— ⅜
36	21⅞	3	Chicago Yellow Cab		No sales today			
135	26	3	Chrysler Corp. ...	16,100	36⅜	35½	35⅞	— ⅜
61⅞	25	3	Clark Equipment ..		No sales today			
62⅝	18	2	Commercial Credit ..	2,100	24½	23⅛	24⅜	+ ½
105¾	70	6.50	do 6½s pf. ...	200	77¼	76¾	76¾	— ¼
79	28⅛	1.60	Comm'l Invest. Trust	2,000	40⅞	39⅝	39⅝	— ⅜
109	96	7	do 7s pf. ...	10	100	100	100	— ¼
28⅜	6½	.80	Continental Motors ..	2,100	7¾	7⅝	7⅝	....
121¼	58	3.50	Cutler-Hammer		No sales today			
231	80	4	Du Pont ...	1,800	118½	115¼	115¼	+ ¾
76¾	18	3	Eaton Axle & Spring	4,400	30	28½	28½	+ ½
174	50	6	Electric Auto-Lite ..	3,000	84⅝	82	82	— ...
104½	55	5	Electric Stor. Battery	1,200	71¼	70¼	70¼	+ ⅛
13	1½	....	Emerson Brant		No sales today			
73¾	15	2.50	Evans Auto Load ..	300	23½	22	22	— 2
22⅜	5	.80	Federal Motors ...	600	8	8	8	....
37	32¼	1.60	Firestone ...	1,500	32⅞	32	32⅞	+ ⅜
89⅝	86	6	do pf. ...	2,100	86	84½	84⅞	— 1⅜
20⅛	3½	....	Fisk Rubber ...	2,300	3¾	3½	3½	— ⅛
72½	15	....	do 1st pf. ...	50	15⅜	15	15	— 17⅛
33⅞	5	....	Gabriel Snubber ...	100	6¼	6¼	6¼	+ ¼
403	168⅛	6	General Electric ...	20,100	241	231	236	+ 2
25	3¾	....	Gardner Motor ...	1,400	4¼	4	4¼	— ⅛
91¾	33½	3	General Motors ...	23,900	41⅞	41⅛	41⅛	— ¼
126½	112	7	do 7s pf. ...	900	121¾	121	121¾	+ ¾
64⅛	26	2	Glidden Co. ...	400	34¾	34⅛	34¾	+ ⅝
106⅛	95	7	do pf. ...	20	102	102	102	— ½
105¾	42	4	Goodrich ...	2,700	47¼	45⅝	46⅝	— ⅛
115⅛	98⅛	7	do pf. ...		No sales today			
154½	60	5	Goodyear T. & R....	1,400	70	68⅛	69⅞	+ ⅛
104⅞	87	7	do pf. ...	500	95	94½	95	....
54	7⅜	....	Graham-Paige Motor	4,400	10¼	9⅞	10	— ½
68⅜	5½	8	Hayes Body ...	400	9⅝	9⅝	9⅝	— ⅜
52¾	13	2	Houdaille-Hershey ..	600	22	21¼	21¼	— ¾
93½	38	5	Hudson Motor Car.	4,100	53¾	52⅜	53	— ¾
82	18	2	Hupp Motor Car....	2,800	22⅛	21⅝	21⅝	— ⅜
32½	3½	....	Indian Motocycle ...	400	4⅞	4¼	4¼	....
14¼	2	....	Intercon. Rubber ...	300	5	5	5	....
142	65	2.50	Interna. Harvester ..	3,100	82⅞	80	81¾	....
145	137	7	do pf. ...	2,500	142½	141¼	142½	+ 1¼
242¾	90	3	Johns-Manville ...	8,000	127⅝	123	123½	— 1
16½	1½	....	Jordan Motor Car...	500	2½	2⅜	2⅜	— ⅛
24	3⅞	....	Kelly-Springfield ...	2,300	4	3⅞	4	— ⅛
100	30	....	do 6s pf. ...		No sales today			
94⅞	20	....	do 8s pf. ...	50	21	20½	21	+ ¼
59¾	18⅝	2	Kelsey-Hayes Wheel.	1,200	24⅜	24	24⅜	....
25	5	....	Lee Rubber & Tire ..	100	6⅜	6⅜	6⅜	— ⅛
61	37⅝	2.60	Link Belt ...		No sales today			
114¾	55⅛	6	Mack Trucks ...	900	74⅜	74	74	....
89⅞	30	2	Marlin Rockwell	400	49	48½	48⅞	+ ⅜
104	19	4	Marmon ...	200	27	27	27	....
18	2½	....	Martin Parry ...		No sales today			
34⅞	9	2	Mengel ...	600	16½	16⅜	16⅜	— ⅝
24⅞	¾	....	Miller Rubber ...	100	4	4	4	....
5	1½	....	Moon Motors ...	1,000	4⅝	4⅛	4⅝	+ ¼
31¾	3¼	....	Motor Meter G & E.	1,100	6⅞	6	6⅜	....
142	36	3	Motor Products		No sales today			
55⅛	21	3	Motor Wheel Corp. .	200	27¾	27	27	+ ⅝
81⅞	10	....	Mullins Mfg. ...	200	15¾	15½	15½	— ¾
100⅜	14⅞	3	Murray Corp ...	9,600	23¼	22½	22⅞	— ⅜
118⅞	40	6	Nash Motors ...	7,700	55⅝	53⅞	54	....
6¼	¾	....	Norwalk T. & R. ...		No sales today			
45	8	....	do pf. ...		No sales today			
10⅞	2½	....	Omnibus Corp. ...	300	3⅛	3⅛	3⅛	....
55	22¼	2.50	Otis Steel ...	900	33⅞	32¾	33⅛	— 1⅜
32½	13	.70	Packard Motor Car.	13,000	16¼	15⅞	16	— ⅛
22½	5⅛	....	Peerless Motor Car.	900	6⅞	6¾	6¾	....
37⅞	18	....	Pierce-Arrow ...		No sales today			
87½	67¾	6	do pf. ...		No sales today			
58½	28	2.60	Raybestos Manhattan	1,600	33⅜	33	33⅛	— ¾
31⅞	10⅛	.80	Reo Motors ...	1,000	11⅝	11⅝	11⅝	....
12¼	3⅝	....	Reynolds Spring ...		No sales today			
66¾	21	....	Spicer Mfg. Co.	700	23¾	23½	23½	— ⅛
55⅞	38	3	do pf. ...	100	40	40	40	....
77	30	3.50	Stewart-Warner Spd.	1,400	40⅛	39⅝	40	— ⅛
98	38¼	5	Studebaker Co.	4,100	44⅜	43⅛	43⅛	— ¼
126	115	7	do pf. ...		No sales today			
34⅜	11½	.60	Timken Detroit Axle	700	16	16	16	....
139⅝	58½	3	Timken Roller Bear.	4,100	75¾	73⅞	73⅞	— ¾
63	30½	2.50	Trico ...	700	32	32	32	— 1
65	15	....	U. S. Rubber ...	800	28⅜	27¾	27¾	— ¼
92½	40	....	do 1st pf. ...	1,800	51¾	51	51	— 1¾
42⅞	15	2	Warner Quinlan ...	1,100	22⅛	21⅝	22⅛	+ ¼
67¾	36½	2	Westinghouse A. B. .	600	46½	46⅛	46½	+ ¼
53½	27¼	2	White Motors ...	1,000	33	33	33	....
61¼	19	2.50	Wilcox Rich A	300	26⅞	26¼	26½	— ½
62	12⅜	2	do B ...	7,500	20	19	20	+ ⅛
35	5¼	1.20	Willys-Overland	21,700	9	8⅝	8¾	— ¼
103	70	7	do pf. ...	200	70	70	70	....
88	61¾	4	Yale & Towne		No sales today			
51¼	7½	....	Yellow Tr. & C. B..	7,700	15½	14½	15	— ⅛
96½	80	....	do pf. ...		No sales today			

NEW YORK CURB EXCHANGE

Sales		High	Low	Close	Net Chge
	Caterpillar T...	No sales today			
68600	Cities Service...	27	25⅛	25¾	—1½
400	do pf ...	89¼	89⅛	89⅛	— ⅜
	Con Dia Fibre.	No sales today			
3500	Cord Corp ...	13⅝	13⅛	13½	+ ⅛
500	Doehler D C...	17½	17⅛	17⅛	— ⅜
8600	Durant Motor..	5¼	5	5¼	...
	Fageol Motor..	No sales today			
100	Fedders ...	10⅛	10	10	—2
	Federal Mogul..	No sales today			
100	Federal Screw..	34½	34½	34½	+ ⅜
500	Fiat ...	18	17¾	18	...
2300	Ford Canada...	31⅜	30⅜	31	...
1500	Ford France....	8½	7⅞	7⅞	— ⅛
3800	Ford Ltd	11⅜	11	11½	— ⅛
100	Franklin Mfg..	22	22	22	—1⅜
	Gen Tire & Rub	No sales today			
	Gr'nf'ld T & D	No sales today			
	Hall Lamp	No sales today			
	Heaney	No sales today			
	Hood Rubber ...	No sales today			
	India Tire	No sales today			
	Isotta Fras	No sales today			
	Jaeger	No sales today			
100	Lakey	9½	9⅛	9⅛	+ ⅛
	McQuay Norris..	No sales today			
	Midland Steel..	No sales today			
500	Nat Rub Mach.	20⅞	20½	20¾	— ¼
600	Paramount Cab	14⅞	14⅝	14⅞	...
	Perfect Circle..	No sales today			
	Pines Winter...	No sales today			
100	Pitt Plate Glass	50	50	50	—3½
	Rolls Royce Am	No sales today			
	Ross Gear	No sales today			
	Safe T Stat....	No sales today			
100	Seiberling	11⅛	11⅛	11⅛	+ ⅛
50	Smith A O.....	165	165	165	+ 2
	Sparks With...	No sales today			
1100	Stutz Motor ...	3⅛	3⅛	3⅛	+ ⅛
	Thermoid Co ...	No sales today			
	Thompson Prod	No sales today			
500	Triplex	7¼	7⅛	7⅛	+ ⅛
	Tung Sol	No sales today			
	U S Asbestos...	No sales today			
	Watson, J W...	No sales today			
100	Wayne Pump...	1⅛	1⅛	1⅛	...
	West Auto	No sales today			
	Yellow Taxi N Y	No sales today			

NEW YORK OVER-THE-COUNTER

Div.		Bid	Asked
6	Am Hard Rubber	..	68
8	Dixon (J) Crucible	160	168
3.50	Doenier Die Casting	31	...
7	do pf	..	95½
....	Eisemann Magneto	20	30
7	do pf	82	90
....	Rolls Royce Am	10	15
....	do pf	15	25
1.20	Smith (A O)	163	173
....	Splitdorf Beth El	4½	5

CHICAGO STOCK EXCHANGE

Sales		High	Low	Last
300	Acme Steel	95	94	94
100	Auburn Auto	205	205	205
4900	Bendix Aviation	36¼	34¼	35
2550	Borg-Warner	35⅝	34¾	35¼
150	Chain Belt	43	43	43
450	Chicago Yellow Cab	26½	26½	26½
1200	Cord Corp	14	13⅜	13½
850	La Salle Extension.	4	3½	4
250	Mohawk Rubber	10	10	10
100	Muskegon M S.....	17	17	17
100	Nachmann Spring..	28¼	28	28
500	National Battery....	31½	31½	31½
100	Noblitt Sparks.....	50⅝	50⅝	50⅝
50	Perfect Circle	32	32	32
250	Wayne Pump pf....	28	27½	27½

CLEVELAND STOCK EXCHANGE

Sales		High	Low	Last
510	Excello	16½	16	16½
100	Federal Screw	35	35	35
210	Ford Motor A.....	31½	31½	31½
1100	Graham-Paige	10½	10	10
784	Hutto Eng	5½	5¼	5¼
550	Jackson M S.....	7¼	7	7¼
315	Kermath	10	10	10
210	Packard	16	15⅞	15⅞
100	Timken Axle	16¼	16¼	16¼
400	Wilcox Rich B.....	19¼	19¼	19¼

DETROIT STOCK EXCHANGE

Sales		High	Low	Last
510	Excello	16½	16	16½
100	Federal Screw	35	35	35
210	Ford Motor A.....	31½	31½	31½
1100	Graham-Paige	10½	10	10
784	Hutto Eng	5½	5¼	5¼
550	Jackson M S.....	7¼	7	7¼
315	Kermath	10	10	10
210	Packard	16	15⅞	15⅞
100	Timken Axle	16¼	16¼	16¼
400	Wilcox Rich B.....	19¼	19¼	19¼

Automotive Stock Statistics

(Revised Daily From Records of Automotive Daily News)

PASSENGER CAR COMPANIES

	Shares Authorized	Shares Outstanding	Par Value	Dividend	1929 Earnings Per Share	Full 1928 Earnings Per Share
Auburn	500,000	166,329	None	†4.00	*17.79	10.77
Chrysler	6,000,000	4,452,615	None	3.00	* 5.55	6.79
Durant	3,000,000	1,852,419	None	None	...	...
Franklin	600,000	299,375	None	2.00	† 3.98	2.66
Gardner	300,000	300,000	5.00	None	...	...
General Motors..	75,000,000	43,500,000	10.00	†3.00	* 4.96	6.14
Graham-Paige ..	2,500,000	1,726,541	None	None	* .65	.41
Hudson	2,000,000	1,596,660	None	5.00	* 8.42	8.43
Hupp	2,000,000	1,440,317	10.00	†2.00	* 2.25	8.12
Jordan	500,000	450,000	None	None	* .29	...
Marmon	400,000	260,000	None	4.00	¶ 4.29	6.01
Moon	400,000	400,000	None	None	...	...
Nash	2,730,000	2,730,000	None	6.00	* 5.05	7.63
Packard	25,000,000	15,000,000	None	.60	** 1.68	**1.45
Peerless	400,000	258,589	50.00	None	...	...
Pierce-Arrow A..	197,250	197,250	None	None	*11.23	...
Reo	2,000,000	2,000,000	10.00	.80	* 1.05	2.54
Studebaker	2,500,000	1,960,178	None	5.00	* 6.72	7.16
Stutz	400,000	400,000	None	None	...	...
Willys-Overland .	3,000,000	3,000,000	5.00	1.20	* 1.35	2.09

MOTOR TRUCK COMPANIES

Brockway	500,000	219,081	None	3.00	†† 2.41	4.53
Federal	500,000	499,543	None	.80	†† .63	1.13
Mack	1,000,000	755,625	None	6.00	* 7.85	7.83
White	1,000,000	800,000	50.00	2.00	†† 1.75	2.45
Yellow	1,300,000	1,300,000	None	None	* .05	Nil

ACCESSORY AND EQUIPMENT COMPANIES

American Bosch.	250,000	207,399	None	None	* 4.47	5.02
Bendix Aviation.	3,000,000	2,115,000	None	2.00	* 3.26	4.44
Bohn Al. & Br. ..	375,000	352,198	None	†3.00	* 7.03	9.09
Borg-Warner ...	1,500,000	1,230,965	10.00	4.00	* 5.05	5.98
Briggs Mfg.	2,025,000	2,003,225	None	None	* 1.65	2.15
E. G. Budd Mfg.	1,101,000	1,031,352	None	†1.00	† 1.16	1.27
Budd Wheel	1,000,000	902,060	None	1.00	* 1.76	.16
Chicago Pneu. ..	500,000	199,469	None	None	* 2.38	6.76
Clark Equipment	250,000	250,000	None	3.00	* 4.84	4.92
Con. Motors	3,000,000	2,113,014	None	.80	†† .28	1.02
Eaton Axle & Spr.	300,000	300,000	None	3.00	* 4.41	5.29
Elec. Auto-Lite..	1,000,000	930,363	None	6.00	*10.61	8.60
Gabriel Snubber.	200,000	200,000	None	None	* Nil	1.64
Hayes Body	500,000	312,120	None	None	* .27	3.36
Houd'le-He'shey B	1,000,000	522,977	None	1.50	* 4.86	6.89
Kelsey-Hayes ...	1,000,000	749,454	None	2.00	†† 2.45	2.54
Link Belt	740,350	709,028	None	2.60	* 3.15	4.21
Marlin-Rockwell.	400,000	364,145	None	2.00	* 5.87	6.93
Moto Meter G & E	750,000	512,500	None	None	a .28	...
Motor Products..	500,000	197,366	None	†3.00	*11.15	19.10
Motor Wheel....	1,000,000	825,000	None	†2.00	* 4.01	4.24
Mullins Mfg.	150,000	100,000	None	None	* 3.17	6.53
Murray Corp. ...	1,000,000	758,928	None	3.00	†† 3.02	3.34
Reynolds Spring.	1,000,000	724,830	None	None	†† .25	Nil
Spicer Mfg.	600,000	357,750	None	None	* 5.96	6.46
Stewart-Warner .	2,000,000	1,273,368	10.00	3.50	* 5.15	6.46
Timken-Detroit .	3,000,000	992,096	10.00	† .60	†† .76	1.85
Timken Roller B.	2,500,000	2,401,764	None	3.00	* 5.06	6.08
Trico Products...	274,460	274,460	None	2.50	* 5.37	5.27
Wilcox-Rich B..	410,000	328,620	None	†2.00	* 3.65	*3.53

TIRE COMPANIES

Ajax	1,000,000	800,000	None	None	Nil	Nil
Firestone	3,500,000	2,500,000	10.00	...	b 3.27	b2.93
Fisk	2,000,000	1,704,392	None	None	Nil	Nil
Goodrich	1,500,000	953,638	None	4.00	†† 4.09	1.50
Goodyear	1,450,000	1,369,995	None	5.00	†† 7.02	5.04
Kelly-Sp'gf'ld ...	1,200,000	1,063,840	None	None	Nil	Nil
Lee	300,000	300,000	None	None	†† .76	.55
Miller	400,000	260,300	None	None	Nil	Nil
U. S. Rubber	2,000,000	1,464,371	None	None	†† .87	Nil

†And extras. *Nine months. **Year ended August 31. ‡First seven months. ¶Six months ended August 31. ††Six months. aThird quarter only. bYear ended October 31.

Eaton Profits in 1929 Estimated at $1,500,000, An Increase Over 1928

New York, Dec. 19.—Preliminary estimates of the Eaton Axle and Spring Company for all of 1929, made in financial circles, place the net income for the year at approximately $1,500,000, equal to $5 a share on the outstanding common stock.

This increase over 1928, when the net income was $1,429,000, is expected despite some recession in operations in the final quarter of the year.

The net income for the first nine months of the current year amounted to $1,323,496, equal to $4.41 a share, as against $1,047,000 in the corresponding period of 1928.

The Eaton company has shown a wide expansion in earnings in the past five years, the net as estimated for 1929 representing a gain of 120 per cent. over the net income of 1925.

Dollar volume of sales this year is likely to fall slightly under the record-breaking volume of 1928, when the total reached $19,450,000, a gain of 80 per cent. over the previous record year, 1926, when the sales were $10,750,000.

CITIES SERVICE PROFITS HIGHEST IN HISTORY

New York, Dec. 19.—The Cities Service Company's net earnings for the month of November were $4,314,815.23, an increase of 36 per cent. over the same month last year and a high record for any month in the history of the company, comparing with $3,161,665.05 in November, 1928. Net earnings for the year ended November 30 were also the largest for any twelve months, amounting to $41,650,882.06.

EVANS AUTO LOADING CO. EARNINGS SET RECORD

Detroit, Dec. 19.—The Evans Auto Loading Company, Inc., is concluding its most successful year from the standpoint of earnings and the outlook is bright for an even more successful year in 1930, Edward S. Evans, president, stated today.

In commenting, Mr. Evans pointed out that substantial increase in earnings was recorded in spite of the fact that the new western division manufacturing battery plate separators and veneer products was only started last January and showed small earnings the first six months of the year.

FORD SPENDS HUGE SUM IN CANADA FOR SUPPLIES

Montreal, Dec. 19.—More than thirteen million dollars were spent in Canadian cities during the first nine months of this year by the Ford Motor Company of Canada, Limited, for materials used in the manufacture of Canadian Ford cars and trucks. This sum does not take into consideration the company's large pay roll nor the amounts spent with railroads and steamship lines incidental to shipping throughout the Dominion and to its several affiliated companies overseas.

SLACK OF PEERLESS JOINS G. M. EXPORT CO.

Cleveland, Dec. 19.—Fred W. Slack has resigned as vice-president and chief engineer of the Peerless Motor Car Corporation to become associated with the overseas division of General Motors Export Company, sailing after the New York show.

Downey Cites Problems In Economic Engineering

(Continued from Page 7)

department, it is its duty to accurately, concsientiously and to best of its ability design a car which will meet these requirements.

"This is where we are able to put the measuring stick on the engineer and really evaluate his ability or lack of it. Given an unlimited bankroll and with the sky the limit for a list price, only ordinary ability is required of the engineer. The real engineer is the one who gets the bad news from his boss that he must design a car in the lower price field which is better than anything then existing in that price class and which can be manufactured and sold at a profit, and who then goes out smilingly and does the job. In passing I might say that when this problem confronts the engineer he greets the production manager and the purchasing agent with a broader smile and tells them we have a tough job to do.

"Now, while we are on the subject of the relationship between departments, it seems to be quite self-evident that the ultimate result can only be obtained by giving full faith and credit to the views of the other man. We all have difficulties at times, but it has been my experience that 99 9-10 per cent. of all divergent views are caused by failure to obtain and analyze full and complete facts regarding subject under discussion. We are all working to the same end and, while we approach matters from different angles, a full knowledge of the facts plus opportunity for discussion usually results in unanimous agreement.

"I have frequently had a buyer tell me that a certain engineer had released something which, in his opinion, unduly increased the cost of the car, and that he thought he could get no place with that engineer. I have generally found in these cases that the buyer either did not know all the facts, or, if he did, he had not conveyed them to the engineer, and that when this action was taken either the buyer discovered he was wrong or the engineer changed his release. There remain the other one-tenth of 1 per cent. of cases where both parties have full knowledge of the facts, ample opportunity for discussion and still disagree. These cases will continue to exist until the millennium.

"There are many detailed items I could discuss under the subject of 'Engineering for Economy,' such as obsolescence of material, tools, dies, etc., due to engineering changes and other related matters. We have too many engineering changes. The engineer realizes that as well as the rest of us. Some of them are necessary because of original defective design, some are necessary because of shop troubles and many of them are necessary because the purchasing agent picked a bad source of supply. We will always have these changes with us. However, I predict that their number in the future will be materially diminished, due to better design, better purchasing and more stable company policies.

"The primary objective of the engineer was to produce a vehicle which would run. The entire invested capital of some of the early companies did not exceed the cost today of one first class dynamometer. They had no adequate facilities, no adequate tools, and such a thing as a laboratory was unheard of. The primary objective was to produce a vehicle which would run and secure enough capital to produce in sufficient quantity to meet sales demand.

"The engineer's function was to secure a result, and if there were twenty ways to secure the result and he attained it in the most expensive way he was still a good engineer. But the world progresses and conditions change. We found that production facilities exceeded demand, and the engineer was faced with new problems. The duty then developed upon him of designing a better automobile than his competitor and also, in so doing, designing one the component parts of which could be manufactured and purchased without economic loss.

"It is safe to say that these two duties rest more heavily upon the automobile engineer today than at any other period in the history of the industry, and, unless the fundamental characterists of the human race undergo some revolutionary changes, these demands will face the engineer of tomorrow with even greater severity."

CHAPIN HEADS N. A. C. C. SHOW BANQUET COMMITTEE

New York, Dec. 19.—Roy D. Chapin will head the committee having in charge the annual Automobile Show Banquet of the National Automobile Chamber of Commerce to be held at the Commodore Hotel on the evening of Tuesday, January 7, 1930.

Others appointed on the committee by President Alvan Macauley include A. J. Brosseau, E. L. Cord, H. H. Franklin, Robert P. Page, Jr., Alfred P. Sloan, Jr., and George M. Williams.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

HUDSON RESIGNS POST IN BUREAU OF STANDARDS

Washington, Dec. 19.—The resignation of Ray M. Hudson, assistant director of the National Bureau of Standards, in charge of commercial standardization, to become effective December 31, has been announced by that bureau. Mr. Hudson, on January 2, 1930, will assume new duties as secretary of the Massachusetts division of the New England Council, with headquarters in Boston, Mass.

MURRAY CORP. DECLARES 2% DIVIDEND IN STOCK

Detroit, Dec. 19.—The Murray Corporation of America yesterday declared a 2 per cent. stock dividend, payable February 1 to stock of record January 15. Company had previously been paying 75 cents in cash and ¾ of 1 per cent. in stock quarterly, and next dividend would be due payable January 15. Directors took no action on cash dividend.

SEE INCREASE IN 1930 SHIPMENTS BY RAIL

(Continued from Page 1)

first few months of 1929, it was said, was soon confronted with inventories which were much larger than usual. Production was sharply curtailed and operation has been at a rate well below capacity for some time. Inventories have declined until they are now only slightly larger than they were a year ago, so that the outlook for the rubber industry is more favorable than it was three or four months ago.

Spring dated orders from dealers have begun to arrive, but the number of orders and the quantities are less than usual, due to somewhat larger stocks which dealers are reported to have on hand.

A majority of the twenty-eight industries reporting their anticipated car-loading requirements to the board indicated that they expect business in the first quarter of 1930 to hold at about the same level as a year ago.

SHELL BUYS AKRON OIL CHAIN OF GAS STATIONS

Akron, Dec. 19.—The Shell Petroleum Corporation has purchased for $850,000 the Akron Oil Company, one of the largest independent gasoline and oil distributors in the Akron district, according to an announcement given out Monday by R. C. Witwer, president of Akron Oil Company. All facilities of the Akron Oil Company, including the thirty-three service stations, the modern bulk plant office building and truck fleet are included in the deal. In addition to these thirty-three service stations just acquired, the Shell Corporation has obtained seven sites on which they will erect new stations.

PEERLESS prepares for 1930

Plans started early in 1929 now take definite shape. Plants entirely revised and re-tooled

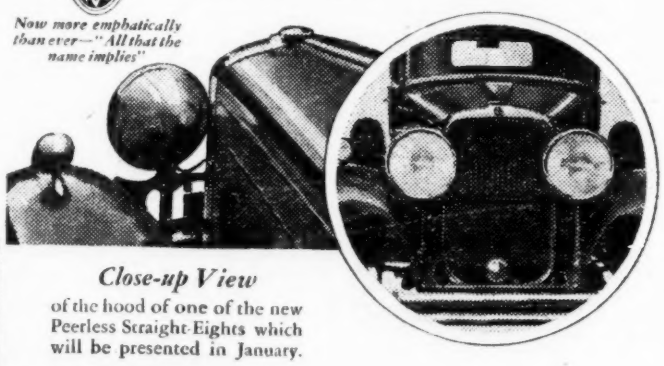
Three entire new Peerless cars to be offered in January—all Straight Eights

A great new Peerless program, by far the most far-reaching in the Company's thirty-year history, is soon to be made known. Up in the engineering department three entirely new cars have been designed and developed. In the factory an army of workmen have been changing over Peerless plants to newly-found production efficiencies and economies. Downstairs a group of practical, seasoned sales minds have been busily engaged putting together a proposition which meets present day conditions and demands of the dealer. The public, the trade, the industry are expecting great things from Peerless. Interested dealers may have the full facts concerning the new Peerless now.

Experienced, Successful Management at the Helm

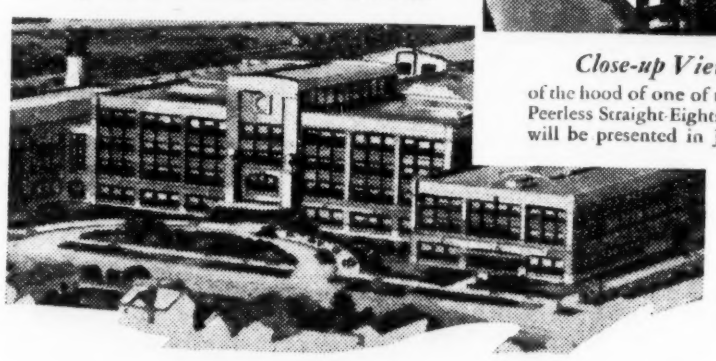
Above—James A. Bohannon, President (at right), and Don P. Smith, Vice-President, go over the features of the new Peerless 120 H.P. Straight Eight engine. Mr. Bohannon and Mr. Smith form the ideal combination of experience—Mr. Bohannon from an engineering and production point of view — Mr. Smith from the sales side because of his successful operations as an automobile distributor.

Now more emphatically than ever—"All that the name implies"



Close-up View

of the hood of one of the new Peerless Straight-Eights which will be presented in January.



The Radiator of the New Peerless

All three new Peerless cars will have the same "front end" characteristics—making it possible to immediately identify the time-famed Peerless. In every detail of design the new Peerless represents the last-minute thought of outstanding designers—both as to outside appearance and interior detail.

Peerless Resources

Peerless plants and proving ground occupy 22 acres. Peerless has no mortgages, no bonded indebtedness, and no preferred stock.

Advance Information for Dealers

Pictures of the 1930 cars, together with provisions of the new Peerless dealer contract, may be had now by addressing the factory.

PEERLESS MOTOR CAR CORPORATION
CLEVELAND, OHIO